Project no. 14.07 / 14050

Public version

Setting the customised price-quality path for Orion New Zealand Limited

Final reasons paper – [2013] NZCC 21

Date: 29 November 2013

Regulation Branch, Commerce Commission

Wellington, NEW ZEALAND

29 November 2013

ISBN: 978-1-869453-37-4

Foreword

This document sets out our decision on the maximum prices Orion can charge for supplying electricity line services to consumers in its network area, and the minimum quality standards it must meet.

When Orion applied for a customised price-quality path in February 2013, it was the first application we had received for a customised path under the amended Part 4 of the Commerce Act. Orion's application was prompted by the Canterbury earthquakes in 2010 and 2011, but it also sought to implement its long-term network development plans and to recover on the higher expenses and lower revenues it had incurred post-earthquake. To pay for this, Orion proposed an increase in its maximum average prices of CPI+15% in 2014 and CPI+1.2% each year for the remainder of the regulatory period, with further recovery of revenue deferred to the following regulatory period.

The Canterbury earthquakes significantly affected the region's electricity consumers, Orion's distribution network, and Orion's staff. Orion did an excellent job in planning for the risk of an earthquake, and in strengthening its network against the impacts of an earthquake. This preparation limited the damage to its network from the earthquakes and, post-earthquake, Orion performed very well in extremely trying circumstances, with power being restored to 95% of its consumers within ten days. We consider that Orion manages its business well for the benefit of its consumers, supported by a strong engineering team.

Our main concern with Orion's proposal is that we consider Orion has proposed to do too much, too soon. We consider the extent and timing of the proposed expenditure has not been adequately justified. Also, we do not consider that consumers should pay higher prices to compensate Orion for the lower than expected revenues it received after the earthquake and before the price-quality path could be reset.

We appreciate that Orion's proposal was put together in a short time frame and in difficult circumstances. The proposal is the first of its kind under the new regulatory regime for the industry too. With more time, and under more normal circumstances, Orion would likely have subjected its proposal to a higher level of internal scrutiny and challenge, with greater consideration of the available alternatives.

Given our concern with the level of expenditure proposed by Orion, we had to undertake our own detailed assessment of Orion's expenditure requirements, assisted by a number of independent experts. We agree with Orion that a significant increase in expenditure is required over the customised price-quality path period. However, our decision reflects a smaller increase than that sought by Orion. Our decision is to allow Orion to increase its maximum average prices by CPI + 8.4% at the beginning of the customised price-quality path period with increases of CPI + 1% until the end of the regulatory period.

Now we have set the final customised price-quality path, Orion can determine its prices for electricity lines services. Orion is also able to prioritise the projects it actually undertakes, but must meet the required reliability standards in the price-quality path.

We thank all those who gave us their views during this process.

Table of Contents

Executive summary

Purpose of this paper

X1 This paper explains our decisions on the maximum prices Orion can charge, and the quality standards it must meet, in the five year period between 1 April 2014 and 31 March 2019 (the customised price-quality path regulatory period).

X2 Orion's average maximum prices can increase by CPI + 8.4% on 1 April 2014 and by CPI + 1% annually for the remainder of the CPP (customised price-quality path) period. The quality standards require the reliability of supply to gradually improve over the CPP period, towards pre-earthquake levels.

Orion is subject to price-quality regulation and seeks a customised price-quality path

X3 Orion owns and operates the electricity distribution networks across central Canterbury, including Christchurch. As it does not face competition, we cap the maximum average prices it can charge its consumers and set the quality standards its services must meet. Together these are known as its price-quality path.

X4 Orion is currently on a default price-quality path which is due to end in March 2015. In February 2013 Orion submitted a proposal for a customised price-quality path to apply for the five years commencing 1 April 2014.

X5 Orion’s proposal for a customised price-quality path included:

X5.1 substantial increases in expenditure in most areas of its operations, including higher spending on major capital expenditure projects, asset maintenance and replacement, network management and operations, and corporate overheads;

X5.2 recovering all additional costs it incurred after the Canterbury earthquakes and the lower-than-forecast revenues in the period leading up to April 2014 from consumers through higher prices from April 2014. These additional costs and lower revenues amount to a total of $86.3 million in present value terms;[1]

[1] As reflected in Orion’s proposal at Orion “Proposal for a customised price-quality path” (19 February 2013), p.30. We asked Orion to calculate the split between additional net costs and lower than forecast revenues prior to our draft decision. When estimating the split, Orion identified that its net cost for 2013 had been under-estimated. Correcting this increased the total claw-back amount to $87.8m. Orion estimated that $44.8m was due to additional costs and $43.0m was due to lower than forecast revenues. See paragraph B112-B115.

X5.3 setting reliability limits that, to take into account the impacts of the earthquakes, were less demanding than those prevailing before the Canterbury earthquakes, but with a steady improvement in the limits back towards pre-earthquake levels; and

X5.4 increasing its maximum average prices for electricity lines services by CPI + 15% from 1 April 2014, and by CPI + 1.2% for the remainder of the CPP period (to 31 March 2019), with the recovery of a further $66 million in present value terms deferred to the following regulatory period.

We have evaluated Orion's proposal

X6 We have evaluated Orion's proposal against the evaluation criteria in our input methodologies.[2] In particular, we have considered whether the operating expenditure (opex) and capital expenditure (capex) proposed by Orion reflects the efficient costs that a prudent supplier of electricity lines services would require to meet or manage expected demand for its services, at appropriate service standards. We refer to this as the expenditure objective.[3]

X7 While we acknowledge the short time frames and difficult circumstances within which Orion has produced its proposal, we are not satisfied that Orion's proposed expenditure reflects the expenditure objective. We appreciate the positive efforts that Orion has made in engaging with us and responding to our requests for additional information both for the draft and this final decision.

X8 We consider Orion has proposed too much expenditure, too soon. Some elements of its forecast expenditure were based on meeting higher than appropriate service standards and/or included costs that were higher than a prudent regulated supplier would require to meet or manage expected demand. Our reasons for this conclusion include that the proposal:

X8.1 was based on achieving a level of network security that was higher than existed before the earthquakes and did not demonstrate consumer support for the move to an enhanced level of network security;

X8.2 insufficient internal top-down assessment and challenge of forecast expenditure had been undertaken by Orion;

X8.3 relied on a number of assumptions that were not fully justified (or were inappropriate);

---

2 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1.

3 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 1.1.4.

X8.4 made insufficient use of business cases that considered the costs and benefits of different investment options;

X8.5 made insufficient acknowledgement and justification for the step change in expenditure compared to historic levels;

X8.6 made little or no recognition of the option value of deferring expenditure, when there is still uncertainty over demand growth and location; and

X8.7 while we accepted Orion’s demand forecast of peak and non-peak demand and quantities, in some specific cases the proposal included unreasonable or unjustified levels of forecast demand.

Submissions on our draft decision

X9 As Orion's forecasts did not satisfy the expenditure objective, we developed our own view of an appropriate allowance for the required levels of opex and capex for Orion’s network for the CPP period, drawing on expert advice. We have undertaken detailed analysis of Orion’s forecasts, and considered alternative expenditure profiles. We asked Orion to clarify a number of issues and received a large volume of additional information and commentary from Orion.

X10 We published our views on opex and capex in our draft decision and explained why we considered the forecasts of expenditure which Orion included in its proposal did not satisfy the expenditure objective. In its submission on that decision, Orion disagreed with some of our reasons, but provided revised forecasts of expenditure which were generally lower than in its proposal, and which in some cases adopted our revised estimate of the required expenditure as included in our draft decision. For example, in its submission on our draft decision Orion:

X10.1 proposed a reduction in the amount of capex required for major projects compared to that included in its proposal;

X10.2 proposed a $17.9 million (14.4%) reduction over the CPP period in asset replacement capex compared to that included in its proposal;[4]

X10.3 proposed a $14.6 million (11.3%) reduction over the CPP period in network maintenance operating expenditure compared to that included in its proposal;[5] and

---

4 Orion “Orion CPP proposal: Draft Determination” (30 September 2013), pp.53-59 and see discussion at Strata Energy Consulting Limited “Technical Advisor Report Further advice on the Orion New Zealand Limited CPP Proposal and submissions Report to the Commerce Commission“ [19 November 2013], pp.25-26.

X10.4 proposed a $4.4 million (5.4%) reduction over the CPP period in network management and operations expenditure compared to that included in its proposal.[6]

X11 In addition, Orion indicated it would still be able to achieve the reliability limits contained its original proposal with the above reductions to its forecast expenditure.[7]

What we set for opex and capex

X12 In finalising the allowances for opex and capex we have considered the submissions on our draft decision, especially the submission from Orion, and considered further analysis and advice, including from our expert advisors. This has resulted in increased final allowances for opex and capex, relative to our draft decision. In particular, our final decision includes:

X12.1 a greater allowance for major projects relative to the draft decision;

X12.2 a greater allowance for replacement capex relative to the draft decision; and

X12.3 a greater allowance for network maintenance operating expenditure relative to the draft decision.

X13 Our expenditure allowances remain below that requested by Orion in both its formal proposal and in its submission on our draft decision. For example, our final decision assumes annual opex which is $8.0 million lower than Orion's proposal, and total capex over the five years which is $149.2 million lower than its proposal.

X14 Our opex and capex allowances do not determine the projects that Orion must or will actually undertake during the CPP period, or how much expenditure Orion undertakes. Orion will decide what work proceeds, and when. The customised price-quality path we determine assumes an *ex ante* allowance for expenditure. Orion then has the freedom to prioritise the projects and programmes it actually undertakes throughout the CPP period without further intervention from us.

---

5 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), pp.61-69 and see discussion at Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Limited CPP Proposal and submissions Report to the Commerce Commission" [19 November 2013], p.37.

6 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), pp.67-69 and see discussion at Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Limited CPP Proposal and submissions Report to the Commerce Commission" [19 November 2013], p.37.

7 Orion also provided alternative reliability limits that it expected to provide service within if the Commission confirmed the expenditure reductions it had proposed in the Draft Decision.

X15 The amount Orion spends will affect the returns it earns. Orion can spend more or less than our allowance, and has a financial incentive to achieve efficiencies (since it can earn higher returns by spending less) but it will need to meet the reliability limits we have set.

Our allowance for past additional costs and lower-than-forecast revenues (claw-back)

X16 Orion proposed to recover (by claw-back) all additional costs incurred and lower-than-forecast revenues resulting from the earthquakes through future higher prices for consumers. Orion proposed claw-back of $86.3 million in present value terms, which it sought to recover over 10 years.

X17 We do not agree with Orion's proposal to claw-back all earthquake-related costs and lower-than-forecast revenues from consumers. We do not consider consumers should bear all the risks and costs associated with the Canterbury earthquakes. The ability of investors to diversify their investments means they are generally better placed to manage demand risk of catastrophic events (such as earthquakes) than consumers. In addition, allocating all the costs and risks of catastrophic events to consumers would create a moral hazard (ie, a supplier may take a risky approach to managing catastrophic events, knowing that consumers would bear the full costs after the event if a catastrophe occurs).

X18 In our view, a sharing of the impact of past additional costs and lower-than-forecast revenues between Orion and consumers is more consistent with the Part 4 regulatory regime. Specifically we allow Orion to recover the net additional costs of responding to the earthquakes, but not the reduction in revenue caused by a reduction in demand from the time of the earthquakes until the new price-quality path takes effect (April 2014).

X19 We consider that the risks of any future catastrophic events should also be shared between Orion and consumers. In particular, Orion should receive *ex post* compensation for additional net costs incurred in responding to future catastrophic events during the CPP period prior to the re-opened path taking effect, but receive no additional compensation for lower-than-forecast revenues. *Ex post* compensation for an approved level of additional net costs incurred due to a future catastrophic event is provided for under a CPP re-opener.

Our final decision

X20 Our decision on the appropriate customised price-quality path for Orion allows for smaller increases in capex and opex than Orion's proposal, and a smaller amount of claw-back.

X21 As a result, the total revenue Orion would be allowed under our price-quality path is lower than Orion proposed. Table X1 shows the difference between the maximum revenue expected by Orion in its proposal and the maximum revenue Orion can expect under our decision.

Table X1 - Maximum allowable revenue before tax expected by Orion ($m)

	2015	2016	2017	2018	2019	Total
Orion's Proposal	164.8	171.7	178.9	186.6	194.4	896.3
Draft Decision	155.8	160.4	165.2	170.2	175.2	826.8
Final Decision	154.8	160.9	167.2	173.9	180.7	837.4

Note: Figures in table are nominal values.

X22 Table X2 shows that the estimated present value of the reduction in Orion's proposed maximum revenue for the period 2015-2019 is $50 million.[8] Orion also sought to recover an additional $66 million of present value revenues from consumers in regulatory periods after 2019. Our decision does not require this deferred recovery of revenues as we set a lower claw-back amount and use standard depreciation. The overall reduction in revenue from Orion's proposal is $115.9 million in present value terms, meaning the present value of revenue under Orion's proposal was 16.3% higher than the present value of revenue Orion can expect under our decision.[9]

Table X2 - Revenues from Orion's proposal compared to our decision ($m)

	2015-19	2020-	Total
Orion's Proposal	762.4	66.0	828.3
Final Decision	712.4	-	712.4
Difference	50.0	66.0	115.9

Note: Figures in table are estimated present values as at 1 April 2014.

X23 Table X3 shows the difference between the rate of change in allowed average price for each year of the customised price-quality path under Orion's proposal and our draft and final decisions. The CPI+8.4% price increase in the year to April 2015 is an expected consequence of our decision on the maximum allowable revenue.

8 Present value calculations include our demand and consumer price increase forecasts. For the purposes of comparison, our estimates also take account of the effect of transferring Transpower spur assets and the expected recovery of prior period Transpower pass-through costs.

9 We believe our decision provides Orion with higher revenues for 2015-2019 than could be expected under a default price-quality path. If Orion reduces its capex spend in 2015-2019 below the levels in its proposal then additional reductions in maximum revenues can be expected in periods after 2019 due to reduced regulatory asset base values.

Table X3 - Average rate of change in allowed price

	2015	2016	2017	2018	2019
Current price path	CPI	CPI	CPI	CPI	CPI
Orion's proposal	CPI + 15%	CPI + 1.2%	CPI + 1.2%	CPI + 1.2%	CPI + 1.2%
Draft decision	CPI + 9.2%	CPI	CPI	CPI	CPI
Final decision[10]	CPI + 8.4%	CPI + 1.0%	CPI + 1.0%	CPI + 1.0%	CPI + 1.0%

X24 The minimum required quality standards in our price-quality path are the same as those proposed by Orion, and will progressively improve over the CPP period towards pre-earthquake levels.

X25 The new maximum prices and quality standards will apply for five years from 1 April 2014.

X26 In light of our decision, Orion will now decide the prices it will charge its various customers from 1 April 2014.

[10] For the final decision we have removed the effect on starting prices of transferring spur assets from Transpower to Orion (the transfer affects how costs are recovered but does not increase prices). Its removal reduces the starting price adjustment by approximately 1.6%.

1. Introduction

Purpose of this paper

1.1 This paper explains our reasons for the customised price-quality path (CPP) we have set for Orion New Zealand Limited (Orion). The CPP we have set promotes the long-term benefit of consumers, consistent with the purpose statement of Part 4 of the Commerce Act 1986 (the Act).[11]

1.2 Our decision sets the maximum average prices and the minimum required quality standards that will apply to Orion between 1 April 2014 and 31 March 2019 (the CPP regulatory period). Under this decision, Orion can increase its average prices by CPI + 8.4% in April 2014 and by CPI + 1% annually until 2019. Now we have set the maximum prices Orion can set, Orion will make the final decision on what prices will apply in its network area.

Orion is subject to default/customised price-quality path regulation

1.3 Orion is a supplier of electricity lines services. It is regulated under Part 4 of the Act because companies in the lines services market face little or no competition.[12]

1.4 Orion is currently subject to a default price-quality path. The default price-quality path (DPP) sets maximum average prices and minimum required quality standards for suppliers of electricity lines services that apply for a regulatory period. The maximum average prices take the form of a starting price at the beginning of the regulatory period and an allowed annual rate of change (currently CPI).

1.5 A supplier can apply to the Commission for a CPP. The applicant must meet a number of conditions including providing supplier-specific information that must be evaluated against pre-specified criteria. The purpose of a CPP is to allow an alternative path to the DPP that better meets a supplier's particular circumstances.[13] While an applicant proposes a CPP, we must determine the appropriate CPP for the supplier.[14]

---

11 Commerce Act 1986, s 52A.

12 Attachment A explains the regulatory framework under which we have determined Orion's CPP in more detail.

13 Commerce Act 1986, s 53K.

14 Commerce Act 1986, s 53V(1). Attachment A includes more detailed discussion about default/customised price-quality regulation.

Orion's current default price-quality path started in 2010

1.6 Orion's current DPP was set for the five year period from 1 April 2010 to 31 March 2015.[15] This was achieved by rolling over Orion's existing prices, which reflected its historic prices updated for inflation, less an efficiency factor, dating back to 2001.

1.7 In November 2012, we reset the DPPs for 16 electricity distributors, but not Orion.[16] That was the first time those 16 electricity distributors had their price-quality paths set to reflect current and projected profitability using the input methodologies (IMs) developed under Part 4 of the Act.

1.8 We did not reset Orion's DPP because we were expecting its CPP proposal following the impact of the Canterbury earthquakes.[17] The CPP is therefore the first time that we have set Orion's price-quality path using the IMs to reflect its current and future profitability.

Overview of the CPP proposal process

1.9 The process for making a customised price-quality proposal is described in the Act and in relevant IMs. In summary:

1.9.1 the supplier makes a CPP proposal in accordance with the relevant process and content IMs;[18]

1.9.2 within 40 working days of receipt of the proposal,[19] we determine whether or not the proposal is complete;[20]

1.9.3 we evaluate the proposal in accordance with evaluation criteria;[21] and

1.9.4 we determine the appropriate CPP within 150 working days of determining the proposal is complete.[22]

---

15 *Electricity Distribution Services Default Price-Quality Path Determination 2010* (Commerce Commission Decision 685, 30 November 2009).

16 Commerce Commission "Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), paragraphs X1 and 1.19.

17 Commerce Commission "Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), paragraphs X1 and 1.19.

18 Commerce Act 1986, s 52T(1)(d) and s 53Q.

19 This may be extended under s 53U of the Commerce Act 1986 by up to 30 working days by agreement of the Commission and the applicant.

20 Commerce Act 1986, s 53S.

21 Commerce Act 1986, s 53T.

22 Commerce Act 1986, s 53V(1) and s 53T(2). The 150 working days can be extended by agreement by up to another 30 working days under section 53U.

1.10 Our decision becomes the EDB's customised price-quality path when we amend the section 52P default price-quality path determination applicable to that supplier.[23] In this case, we have given effect to our decision by amending the Orion 2010 DPP Determination.

We must determine a CPP within 150 working days of determining the proposal is complete

1.11 We applied to the High Court under section 100A of the Act for clarification regarding the timeframe for completing a CPP determination following receipt of the proposal under the Act.

1.12 The Court directed that we have 150 working days to complete a CPP determination following the date we determine that a CPP proposal is complete.[24]

1.13 We note that under the Act we may extend that timeframe by up to 30 working days if the relevant supplier agrees.[25] We agreed with Orion to extend the period for determining the CPP until 29 November 2013.

1.14 If we do not determine a CPP within the 150 working day period, plus any agreed extension, a supplier’s proposal will take effect as its new price-quality path.[26]

Our role is to promote the long-term benefit of consumers

1.15 In setting an appropriate CPP for Orion, Part 4 of the Act requires us to promote the long-term benefit of consumers. The purpose of Part 4 is: [27]

> to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services—
>
> (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
>
> (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
>
> (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and
>
> (d) are limited in their ability to extract excessive profits.

---

23 Commerce Act 1986, s 53V(3).
24 Commerce Commission v Orion NZ Limited [2013] NZHC 1181.
25 Commerce Act 1986, s 53U.
26 Commerce Act 1986, s 53ZA(3).
27 Commerce Act 1986, s 52A.

1.16 We can determine any CPP that we consider appropriate for a supplier that has made a proposal.[28] We have set IMs for developing and evaluating a CPP proposal and for setting a CPP.

Orion was able to propose a customised price-quality path

1.17 Suppliers subject to a DPP can submit a CPP proposal at any time if a catastrophic event occurs, such as the Canterbury earthquakes.

1.18 The Canterbury earthquakes in 2010 and 2011 created unique challenges for Orion.

1.19 Due to the impact of the earthquakes, Orion proposed:

1.19.1 a significant increase in expenditure both to address damage to its network and to implement key elements of its longer term development plan for the network;

1.19.2 the recovery of additional costs incurred;

1.19.3 the recovery of lower than expected revenues due to reduced demand; and

1.19.4 a reduction in the quality standards it is currently required to meet under its DPP.

The process for reaching our decision has consisted of several stages

Orion submitted its proposal and some additional information that we required

1.20 We received Orion's CPP proposal on 20 February 2013, after Orion had consulted its consumers on its proposal. Orion also provided additional information, which we required to make our preliminary assessment of the proposal.

1.21 As we acknowledged in our 'issues' and draft decision papers, Orion's proposal was produced in difficult circumstances, and was the first of its kind under the current regulation.[29]

We determined that Orion's proposal was complete

1.22 In accordance with the Act, our preliminary assessment of Orion's proposal concluded on 19 April 2013.[30] We determined that Orion's proposal complied with

---

28 Commerce Act 1986, s 53V.

29 Commerce Commission "Invitation to have your say on Orion's proposal to change its prices and quality standards - Issues to explore and consider" (1 May 2013), paragraphs 38-39; Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision" (14 August 2013), paragraphs 1.32-1.34.

30 Commerce Act 1986, s 53S.

the relevant rules and requirements relating to the process for, and content of, CPP proposals.[31]

We agreed an extension with Orion for determining its customised price-quality path

1.23 We agreed with Orion to extend the period for determining its CPP until 29 November 2013.[32] Under the Act, we have 150 working days to determine the CPP once a complete proposal is received.[33] However, the Act also allows us to agree an extension with a CPP applicant.[34]

We evaluated Orion's proposal, received expert advice, then released a draft decision

1.24 We evaluated Orion's proposal against the criteria set out in the IMs. Key steps we undertook in this evaluation before we published our draft decision on 14 August 2013 included:[35]

1.24.1 releasing an issues paper on 1 May 2013, which invited stakeholders to have their say on Orion's proposal and some initial issues that we had identified to explore and consider;[36]

1.24.2 obtaining advice on aspects of Orion's proposal from a range of engineering experts;

1.24.3 commissioning expert advice from Professor Yarrow on claw-back, and Aon on insurance matters, which we released for comment on 7 June 2013;[37] and

1.24.4 requesting further information from Orion to help us clarify aspects of Orion's proposal.

1.25 On 4 September, we released our draft Orion CPP determination. We also released a paper outlining our reasons for the draft determination.

---

31 These relevant rules and requirements are collectively known as 'input methodologies'.

32 If we did not make a decision by this date, the maximum average prices and minimum required quality standards to apply to Orion from 1 April 2014 would have been those that Orion had proposed.

33 Commerce Act 1986, s 53T.

34 Commerce Act 1986, s 53U.

35 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited - Draft decision" (14 August 2013).

36 Commerce Commission "Invitation to have your say on Orion's proposal to change its prices and quality standards - Issues to explore and consider" (1 May 2013).

37 Further advice from Professor Yarrow and Aon, which responded to these submissions, was released with our draft decision. Please visit http://www.comcom.govt.nz/regulated-industries/electricity/cpp/orion-cpp.

We consulted on our draft determination and reasons

1.26 We invited submissions on our draft determination and reasons, and cross-submissions on those submissions. We have considered all submissions in determining the appropriate CPP for Orion.

We issued Orion with two section 53ZD notices to supply information

1.27 After receiving submissions on our draft decision, draft determination and reasons, we issued Orion with two notices to supply information under section 53ZD of the Act. These notices requested:

1.27.1 background analysis to enable us to understand specific statements made in Orion's submission; and

1.27.2 actual 2013 values for commissioned assets and other financial inputs to enable us to update our Orion CPP modelling.

1.28 The information received in response to these notices has informed our final decision.

We have now determined a customised price-quality path for Orion

1.29 We have now determined a CPP for Orion that sets higher maximum average prices and lower quality standards than applied previously under the DPP.[38] The CPP will be implemented by way of an amendment to Orion's current DPP. We consider that the CPP better meets Orion's particular circumstances, and will better promote the long-term benefit of consumers (consistent with the purpose of Part 4), than the current DPP.

1.30 We have released all the advice we received from experts before making this final determination, alongside this decision.[39]

Our decision influences Orion's expenditure but does not tell it how much to spend

1.31 Our decision on the maximum average prices that Orion can charge influences the amount of expenditure Orion is likely to undertake during the CPP period. Orion is not required to undertake the expenditure we have assumed when setting its CPP. It has the discretion to spend more or less than we assume and it can prioritise and defer expenditure as it sees fit. Our decision does not dictate the prices that Orion

---

38 Commerce Act, s 53V.

39 This includes final reports from Strata Energy Consulting Limited (Strata), Partna Consulting Group (Partna), Professor Yarrow, and New Zealand Institute of Economic Research (NZIER), all of which are available on our website at http://www.comcom.govt.nz/regulated-industries/electricity/cpp/orion-cpp.

can charge individual customers. Orion can choose to recover less revenue than allowed for in the price path.

1.32 Once the CPP period starts, Orion has a financial incentive to spend less because this will increase its profits. Any efficiency gains made during the period eventually benefit consumers as they will be reflected in the price-quality path for Orion that follows this CPP.[40] The opportunity to earn a normal return on its investment *ex ante* also gives Orion an incentive to continue to make that investment in its network. As the incentive to make efficiency gains is stronger the longer the regulatory period, we set a five year regulatory period, the maximum that is provided for in the legislation.

1.33 We consider that the price path we have set under the CPP is in the long term interests of consumers. This is because it has been set based on a forecast level of expenditure that meets the expenditure objective. The expenditure objective is designed to reflect efficient investment (ie, investment that occurs at the appropriate time and results in services being provided at an appropriate quality).

1.34 In setting the price path we have not included any expenditure that we have not been convinced meets the expenditure objective. Therefore, the price path does not include an *ex ante* provision for Orion to recover the costs of investment from consumers that we have not been convinced meets the expenditure objective (ie, not efficient or we consider is made before it is needed). We also accept that a lower quality standard (which improves over the regulatory period) is appropriate given the damage caused by the earthquakes.

Several factors made our task more difficult than expected

1.35 Several factors made our evaluation of Orion's proposal, and therefore our final determination, more difficult than we had expected.

1.36 In our issues paper, we commented that Orion produced a thorough and high-quality proposal, given the difficult circumstances. This paper was released shortly after we had determined that Orion's proposal was complete. That is, Orion's proposal and the additional information that it submitted was sufficient to enable us to undertake our preliminary assessment. The role of the preliminary assessment is to determine whether a proposal complies with the relevant rules and requirements relating to the process for, and content of, CPP proposals.[41]

---

40 This assumes prices are not simply rolled over at the end of the regulatory period under s 53P(3)(a).

41 As above, our preliminary assessment of Orion's proposal is provided for under section 53S of the Act.

1.37 After we consider that a proposal is 'complete', we then move on to a substantive evaluation of the proposal.[42] Our issues paper highlighted a number of issues and questions that we would evaluate during our substantive evaluation.[43]

Expectations regarding internal review

1.38 Upon more detailed review of Orion's proposal, it became apparent to us that an adequate internal top-down assessment and challenge had not been undertaken of the forecast opex and capex.

1.39 For example, Orion submitted that: [44]

> There was no time available to prepare and test the 'different' information that the Draft Decision suggests we may have, because of the requirements and restrictions that the IMs placed on us when preparing our CPP.
>
> Our circumstances are entirely different to an EDB which has time to contemplate in advance a CPP to address a quality or price issue and test its thinking internally and with stakeholders well in advance of making that application.

1.40 When a supplier makes a CPP application, we assume that the proposal has been robustly challenged by senior management and the Board before submission. We consider that vigorous review of major expenditure by senior management and the Board should be standard practice for all regulated suppliers. We would expect that the internal evaluation of a CPP proposal by a prudent supplier would ensure that a proposal is critically considered and balances:

1.40.1 customer needs and willingness to pay;

1.40.2 risk; and

1.40.3 reasonableness, affordability and deliverability of spend plans derived from the bottom up.

1.41 Some submissions on our draft decision argued that our evaluation of Orion's proposal was too detailed, and that we should have relied more on trusting Orion's knowledge of its network and the community it serves. For example, Vector submitted that information asymmetry means that:

---

42 Commerce Act 1986, s 53T. This more in-depth review is anticipated by the longer time allowance provided by Parliament compared to the preliminary assessment stage. Chapter 2 discusses this in more detail.

43 Commerce Commission, "Invitation to have your say on Orion's proposal to change its prices and quality standards - Issues to explore and consider" (1 May 2013), paragraphs 73-92.

44 Orion "Orion CPP proposal: Draft Decision" (20 September 2013), pp.14. and 16.

> [T]he regulator and its advisors will always have less information on detailed network operational and architectural aspects than the regulated company.[45]

1.42 We agree with Vector that in principle it would be preferable if we were able to rely to a greater extent on an applicant's proposal. However, our examination of Orion's proposal, based on the level of forecast expenditure that did not meet the expenditure objective, indicated that its senior management and Board had not undertaken an internal top-down assessment and challenge consistent with what we would have expected from a prudent supplier in more normal circumstances. As a result, we had to undertake that review (with expert help).

1.43 Chapter 2 explains our approach to evaluating Orion's proposal, and how we sought to ensure that the allowance for opex and capex satisfies the expenditure objective.

Findings of the verifier

1.44 Under the IMs relating to CPPs, Orion was required to obtain an opinion on its proposal from an independent expert known as a verifier. Some submissions on our draft decision noted an apparent overlap and duplication of the verifier's role with that provided by the Commission's expert advisors.[46]

1.45 Submitters also commented that our draft decision did not demonstrate full consideration of the verifier's report.[47]

1.46 We expected the verifier's report would:[48]

1.46.1 assess the proposed expenditure in detail against the expenditure objective;

1.46.2 provide an assessment of the proposal as it was prepared; and

1.46.3 identify and advise the Commission about proposed expenditure that should be further reviewed and possibly adjusted.

1.47 While the verifier's report did provide some detail on this, we did not consider that it provided sufficient evidence that Orion's proposal met the expenditure objective. In

45 Vector Limited "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013), p.22.

46 For example, Powerco "Powerco submission to Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft Decision" (20 September 2013), p.4.

47 See Orion "Orion CPP proposal: Draft Decision" (20 September 2013), p.20 and Electricity Networks Association "Comment on the Draft Decision on Orion's CPP Application and Implications for the Future Implementation of Part 4" (18 September 2013), p.3.

48 The terms of reference for verifiers are set out in Schedule G of the IMs. See *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, Schedule G.

our discussions with the verifier about his report in accordance with the IMs, he was able to elaborate on his concerns with the expenditure levels proposed by Orion.[49]

1.48 This further clarification meant that we used the verifier's report and discussions with him as a starting point for indicating what further analysis was required to complete our assessment of:

1.48.1 the extent to which elements of Orion's proposal met the expenditure objective; and

1.48.2 where elements of Orion's proposal did not meet the expenditure objective, the level of expenditure which would.

1.49 As a result of the verification process, we would have anticipated that Orion's proposal would have more closely met the expenditure objective. Because this was not the case, it meant that we had to undertake more analysis in order to reach our final decision. This additional analysis was more than we had at first anticipated would be required.

1.50 Our evaluation of Orion's proposal has highlighted areas where we think the role of the verifier can be clarified for future CPP proposals. We will involve stakeholders in this process and, if necessary, consider amending the IMs.

Focus on catastrophic events and network resilience

1.51 Orion's proposal addresses reliability (consumers' service experience on a day-to-day basis) and resilience (the network's ability to withstand infrequent, high impact events like earthquakes). Orion's network proved highly resilient to the Canterbury earthquakes, with power being restored quickly to most users. We think that expenditure to improve the resilience of Orion's network, in particular, via enhanced network security standards should be seen as a long-term endeavour, continuously pursued as cost/benefit justified opportunities permit, rather than justifying significant dedicated expenditure during the CPP period. The $6 million that Orion spent on seismic strengthening over the 15 years before the earthquakes is a good example. Orion estimates that this long-term investment approach to resilience saved it $60 million in direct asset replacement costs.[50] Further, as Strata discuss in their advice to us, resilience has a number of dimensions and network resilience can be improved in a range of ways, with varied cost-effectiveness.[51]

---

[49] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause F5(2)(c)(vi).

[50] Orion "Proposal for a customised price-quality path" (19 February 2013), p.14 and p.23.

[51] Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Ltd CPP Proposal and Submissions Report to The Commerce Commission" (19 November 2013), at pp. 13-15.

Transition back to a DPP at the end of this CPP

1.52 At the conclusion of the CPP period Orion will transition back to a default price-quality path.[52] Some suppliers have suggested that we should include the options and process for setting the DPP to apply at the end of the CPP.[53] We are not in a position to do so at this point in time. We will consult with interested parties on this matter in due course.

Structure of this paper

1.53 The main body of this paper has three more chapters.

1.53.1 Chapter 2 provides an overview of our approach to evaluating Orion's proposal against the evaluation criteria set out in the IMs, and a summary of our evaluation.

1.53.2 Chapter 3 explains how, in order to set a customised price-quality path, we have estimated the expenditure required during the CPP period to satisfy the expenditure objective.

1.53.3 Chapter 4 outlines how we set Orion's CPP and our final decision.

1.54 Attachment A covers the regulatory framework under which we have determined Orion's CPP.

1.55 Attachments B and C discuss the analysis of Orion's proposed recovery of past costs and revenues (claw-back), and the treatment of future catastrophic events under the CPP respectively.

1.56 Attachments D to K discuss the analysis used to support our estimates of the expenditure required by Orion during the CPP period to meet the expenditure objective.

1.57 Attachment L explains our reasons for the quality standards that Orion will be required to meet during the CPP.

1.58 Attachment M gives our analysis of Orion's proposal to purchase spur assets from Transpower during the CPP period.

1.59 Attachment N discusses the cost escalators that Orion used in its proposal to account for changes in input prices over time.

---

52 Commerce Act 1986, s 53X(1).

53 Orion "CPP proposal: draft decision" (20 September 2013), p.83.

1.60 Attachment O explains the reasons why we think Orion's forecast weighted average growth in quantities are reasonable.

1.61 Attachment P describes how the financial model supporting our decision produced the financial values that were required to establish Orion's CPP.

1.62 Attachment Q discusses the specification of controllable opex to be applied in implementing the incremental rolling incentive scheme (IRIS) set out in the IMs.

1.63 Attachment R discusses our responses to submissions on our draft determination.

1.64 Attachment S provides a background on Orion's network and on network planning.

1.65 Attachment T provides a glossary of terms and abbreviations used in this paper.

2. Evaluating Orion's proposal against the criteria

Purpose of this chapter

2.1 This chapter provides an overview of our approach to evaluating Orion's proposal against the evaluation criteria set out in clause 5.2.1 of the EDBs IM determination, and a summary of our evaluation.

Overview of the approach to setting a customised price-quality path

2.2 After we gave notice that the application from Orion complied with the CPP process and content requirements, we undertook a substantive evaluation of the proposal culminating in the customised price-quality path determination.[54] This involved two distinct steps: evaluating the proposal and setting the customised price-quality path.

2.3 In step one, we assessed the proposal against the evaluation criteria stated in the IMs. This included assessing:

2.3.1 whether the proposed expenditure met the expenditure objective; and

2.3.2 whether the proposal was consistent with the input methodologies applicable to the supplier, such as those on asset valuation and cost allocation.

2.4 In step two, we determined the customised price-quality path.

2.5 Our conclusion on the first step informed the second step. If we had concluded that the proposal fully satisfied the evaluation criteria, then setting the customised price-quality path would have been relatively straightforward. When it did not, further work was required to determine the level of expenditure that would satisfy the expenditure objective.

2.6 Therefore, the depth and extent of our analysis in step two will vary for different customised price-quality path proposals, depending on the robustness and quality of the proposal (as reflected in our evaluation conclusions from step one). Other factors such as the size and complexity of the proposal will also affect the amount of analysis required in step two.

2.7 In the remainder of this chapter we discuss our assessment of Orion's proposal against the evaluation criteria (step one). We conclude that Orion's proposal does not fully satisfy the evaluation criteria, and in particular, it does not satisfy the expenditure objective. As a result, we had to undertake additional analysis in step

[54] We determined Orion's proposal was complete on 19 April 2013, and published the proposal for comment on our website.

two to determine a level of opex and capex for the CPP regulatory period which met the expenditure objective. This is discussed in Chapter 3.

Criteria used in evaluating Orion's proposal

2.8 Box 2.1 sets out the evaluation criteria that we must use to assess a customised price-quality path proposal.[55]

Box 2.1 – Evaluation criteria for customised price-quality path proposals

The Commission will use the following evaluation criteria to assess each CPP proposal:

a) whether the proposal is consistent with the input methodologies;

b) the extent to which the proposal promotes the purpose of Part 4 of the Act;

c) whether data, analysis, and assumptions underpinning the proposal are fit for the purpose of determining a CPP;

d) whether the proposed capital and operating expenditure reflects the efficient costs that a prudent regulated supplier would require to meet or manage expected demand for electricity distribution services, at appropriate service standards, and comply with applicable regulatory obligations (the expenditure objective);

e) the extent to which any proposed changes to quality standards reflect what the applicant can realistically achieve taking into account statistical analysis of past SAIDI and SAIFI performance; and/or (ii) the level of investment provided for in proposed; and

f) the extent to which the CPP applicant has consulted with consumers on its CPP proposal; and the proposal is supported by consumers, where relevant.

2.9 We briefly explain each of the evaluation criteria below.

Whether the proposal is consistent with the relevant input methodologies

2.10 Orion's proposal must apply or adopt all relevant IMs.[56] The IMs establish the key rules, requirements and processes of regulation.

2.11 Our evaluation of Orion’s proposal therefore included assessing whether the proposal was consistent with, for example, the IMs on asset valuation, cost allocation, taxation, and cost of capital.

55 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1.

56 Commerce Act 1986, s 53Q(2)(d).

The extent to which the proposal will promote the purpose of Part 4

2.12 The proposal must promote the purpose of Part 4 of the Act, namely to promote the long-term benefit of consumers in markets where there is little or no competition and little or no likelihood of a substantial increase in competition. The Act sets out objectives in s 52A(1)(a)-(d) which are integral to promoting the long-term benefit of consumers, and reflect key areas of supplier performance that characterise workable competition. We discuss the purpose statement in Part 4 of the Act in further detail in Attachment A.[57]

Whether the information in the proposal is fit for purpose

2.13 The information in a proposal must be sufficient in detail and quality to allow the Commission to undertake its assessment.[58] The assumptions used must also be robust. Where we considered further information was necessary to establish it was fit for purpose, we requested this from Orion. Where we had doubts about the appropriateness or robustness of an assumption, we sought further explanation for the assumption or used a more appropriate assumption.

Whether the proposed expenditure reflects the expenditure objective

2.14 The expenditure objective was included in the IMs as a specific evaluation criterion for the assessment of capital expenditure and operating expenditure.[59]

2.15 The expenditure objective requires us to assess Orion's proposed capital expenditure and operating expenditure on the basis that it reflects the efficient costs that a prudent supplier subject to price-quality regulation would require to:

2.15.1 meet or manage the expected demand for electricity distribution services, at appropriate service standards, during the customised price-quality path regulatory period and over the longer term; and

2.15.2 comply with applicable regulatory obligations associated with those services.[60]

2.16 The assessment of forecast expenditure is not a mechanistic process – it necessarily involves the exercise of judgement supported by expert advice.

---

57 See paragraphs A3-A11.

58 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.8.

59 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.10.

60 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 1.1.4.

2.17 The assessment of forecast expenditure focuses on the customised price-quality path regulatory period. However, Part 4 of the Act has as its central purpose the long-term benefit of consumers, so we also considered circumstances beyond the period of Orion's customised price-quality path.[61]

Whether the proposed quality standard variation is realistically achievable

2.18 Orion's existing quality standards under the DPP only concern network reliability.[62] We assessed the extent to which the proposed quality standard variation better reflected the realistically achievable performance of Orion over the customised price-quality path regulatory period than Orion's quality standards under its existing DPP.

2.19 We did this by considering statistical analysis of past SAIDI[63] and SAIFI[64] performance as well as the level of investment provided for in proposed maximum allowable revenue before tax (as applicable).[65]

2.20 For some parts of Orion's network, damage caused by the earthquake means historical performance is unlikely to be a guide to realistically achievable performance over the customised price-quality path period. Where this is so, we have considered the proposed level of investment, the level of reliability proposed by Orion, and the expected effects of the proposed investment on reliability.

The extent of Orion's consultation with consumers and support from Orion's consumers

2.21 A customised price-quality path must promote the long-term benefit of consumers. The Commission acknowledges that a supplier should have a better understanding of the need for network investment than its consumers. Accordingly, consumer agreement to the proposed customised price-quality path is not required. Instead, we took into account the extent of support (or opposition) for the matters that were raised by Orion in its consultation with consumers on its proposal (and consumers' submissions to us).[66] We also took into account feedback we received from customers on the issues we raised in our issues paper.

---

61 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.12.

62 Network reliability is the term used to refer to the extent that a network provides consumers with a continuous, uninterrupted supply of electricity. There are other aspects of quality that are important to consumers too. For example, resilience and security, which are concepts that are explained in Attachment S.

63 System Average Interruption Duration Index (SAIDI).

64 System Average Interruption Frequency Index (SAIFI).

65 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.4.5.

66 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.16.

2.22 Consumer feedback is likely to be particularly relevant where there are price/quality trade-offs, and an EDB seeks to justify proposed investments or changes to quality on the basis of consumer demands.[67]

How we have approached our evaluation of Orion's proposal

2.23 Our IMs reasons paper explained how we would assess expenditure forecasts in a customised price-quality path proposal. Accordingly, in applying the expenditure objective, where possible we have focused on whether Orion's policies, strategies and procedures are appropriate, such that services will be provided efficiently and align with consumer demands. We have also considered whether Orion's policies, strategies and procedures have been applied in practice.[68]

2.24 We applied a top-down service-based approach to our evaluation of Orion's proposed opex and capex. At the core of this approach is the concept that network expenditure is driven by the need to deliver regulated services.[69] There is therefore a direct link between the justification for the expenditure and the services delivered.[70]

2.25 A top-down service-based approach enables assessment of the proposal to primarily focus on business outputs and business systems, which is where we expect the focus of the supplier's senior management and Board typically rests.[71] We would expect the senior management and Board of a prudent EDB to undertake such a top-down service-based approach to test the expenditure proposals made by their engineering staff. We consider that without such a challenge process from senior management and the Board, the combination of all bottom-up proposals for expenditure could result in a significant over-estimate of an efficient level of expenditure.[72]

2.26 Our evaluation involved undertaking a critical review of the process through which Orion developed its proposed capex and opex and testing the validity and sensitivity of critical input assumptions.

---

67 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.15.

68 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph K3.5.

69 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph K3.3.

70 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph K3.4.

71 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph K3.3.

72 For example, see the comments in Strata Energy Consulting Limited "Technical Advisor Report, Further Advice on the Orion New Zealand Limited CPP Proposal and Submissions Report to the Commerce Commission" (19 November 2013), paragraphs 174-175.

2.27 Our evaluation of Orion's proposed opex and capex was informed and assisted by a range of inputs, including:

2.27.1 reviewing the verifier's report (and our own discussions with the verifier);

2.27.2 our own review of the information on proposed expenditure included in Orion's proposal;

2.27.3 expert advice (for example, on the assumptions such as forecast labour costs that Orion has used; and technical advice from Strata);

2.27.4 the request for further material from Orion and our consideration of that material;

2.27.5 workshops and other discussion with Orion;

2.27.6 submissions from interested persons to us on Orion's proposal following release of our issues paper and our draft decision;

2.27.7 an analysis of Orion's historical levels of expenditure and performance (ie, reliability); and

2.27.8 comparisons with other EDBs (eg, on security of supply standards).

2.28 In our IMs reasons paper, we stated that "[t]he Commission will assess each proposal on its merits using the evaluation criteria and not against any alternatives (including the default price-quality path applying to the supplier)".[73] This is consistent with default/customised price-quality regulation providing a relatively low-cost way of setting price-quality paths while still allowing suppliers to have alternative price-quality paths.[74] This means it is not necessary for a supplier to submit several alternative proposals.

2.29 The expenditure objective is one of the evaluation criteria that the Commission must use to assess a customised price-quality path proposal.[75] This is an important consideration to give the Commission (and indeed the supplier's board) to be confident that the proposed investment represents the efficient cost that a prudent EDB would incur to manage the expected demand for its services.[76] In our view,

---

73 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.6.

74 Commerce Act 1986, s 53K.

75 Refer Box 2.1 and *Electricity Distribution Services Input Methodologies Determination 2012 [2012] NZCC 26*, clause 1.1.4(2).

76 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1(d).

expenditure which satisfies the expenditure objective will result in a price-quality path which meets the purpose of Part 4.

2.30 However, to be consistent with the expenditure objective, we would generally expect that a prudent supplier would be able to demonstrate that it has considered alternative investment options (including different timeframes) for supplying services at the quality consumers demand, and chosen the best one.[77] We consider this to be consistent with good practice in business planning and investment appraisal, and to be consistent with what is required in an asset management plan.

2.31 The independent verifier's findings and our own assessment against the evaluation criteria, which was informed by Strata and other expert consultants, raised a number of questions which prompted a more detailed review of the expenditure contained in Orion's CPP proposal.[78] In particular:

2.31.1 we were unable to identify the drivers of Orion's proposed expenditure across the expenditure categories; and

2.31.2 information provided could in many significant cases not be reconciled with proposed expenditure projects, despite verification.

2.32 Where the link between expenditure and the benefits the expenditure was intended to deliver was unclear, or the expenditure did not appear justified, we undertook a more detailed analysis of the assumptions and forecasts built into Orion's proposal and extended our examination to a wider range of proposed expenditure. We reviewed material assumptions, and assessed the sensitivity of the proposed expenditure to changes in assumptions.

---

77 There are a number of provisions in the IMs that imply or require options to be considered, and prioritised, so as to ensure expenditure is prudent and efficient. See, for example, *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause D7(2)(f), which includes reference to the details of what network and non-network alternatives were considered when generating the capex forecasts; and clauses D8(b)&(h) of the IMs, which require a description of the prioritisation methodology adopted for system growth projects and programmes and an analysis of the network and non-network development options for system growth capex, consistent with s 54Q. In addition, the Asset Management Plan (AMP) requirements already require options/alternatives to be considered, so it is clearly part of expected prudent practice for an EDB. Also, the AMPs can be relied on in the proposal, see clause D3(3). Finally, Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph E4.7states that "The requirement for EDBs to disclose asset management plans (AMPs) under the existing information disclosure requirements provides a useful discipline on the prudency of EDBs' capital expenditure. … [And reviews of AMPs] will assist interested persons in assessing if prudent and efficient capital expenditure is occurring, thereby providing incentives for regulated suppliers to make prudent investments."

78 Our expert consultants included Strata Energy Consulting Limited (Strata), Partna Consulting Group (Partna), New Zealand Institute of Economic Research (NZIER), Calverton Business Consulting Group (Calverton) and Aon New Zealand Limited (Aon).

2.33 The level of detail of our assessment varied depending on our concerns and any concerns expressed by the independent verifier or our external consultants. One of the challenges that both we and the independent verifier faced was that the information provided did not provide a complete picture or did not accurately explain the reasons for proposed expenditure.

2.34 Some submissions suggest we gave insufficient weight to the independent verifier's report.[79] We disagree. The independent verifier's report identified a number of areas of possible concern regarding Orion's proposal, particularly the appropriateness of Orion's planning criteria (which constituted a significant proportion of proposed expenditure).[80] Our analysis logically followed from these concerns. The role of the independent verifier is also discussed in Chapter 1.

2.35 Our IMs do not expressly require customised price-quality path proposals to include opex, capex and quality alternatives in their proposal. However, as submissions on our issues paper and draft decisions note, consumers require specific information on the price-quality trade-offs for them to meaningfully express an opinion on what is being proposed or a preference. Absent that broader consideration by consumers, it is not possible to infer consumer expectations as to the proposal as a whole.

Our evaluation conclusions

2.36 In our view, Orion's proposal was consistent with the IMs applicable to it, such as the asset valuation and cost of capital input methodologies. We have considered the extent to which Orion's proposed quality standard variation is realistically achievable, and our views are set out in Attachment L.

2.37 Orion has consulted its consumers on its proposal and responded to those submissions. However, in our view the consumer consultation was of limited value, as Orion did not provide enough information to consumers on the investment alternatives (around expenditure, prices and quality) such that consumers could substantively comment on their desired level of quality and their willingness to pay for it. We therefore cannot reach firm conclusions on whether, or the extent to which, Orion's proposal can be said to be supported by consumers.

Our conclusions from our evaluation of Orion's proposed opex and capex

2.38 Whether Orion's proposed opex and capex met the expenditure objective was central to our evaluation of Orion's proposal. Our overall conclusion from this part of

---

79 Vector Limited "Submission to the Commerce Commission on Orion CPP Issues Paper" (24 May 2013), p.28.

80 See Geoff Brown & Associates Ltd "Verification Report", pp.1-2 in Orion New Zealand Limited "Application for a customised price-quality path" (1 March 2013), Appendix 7.

our evaluation was that Orion's proposal did not meet the expenditure objective, as Orion proposed too much expenditure, too soon.

2.39 Orion's proposal included elements of forecast expenditure that was:

2.39.1 based on meeting higher than appropriate service standards; and/or

2.39.2 included costs that are higher than a prudent regulated supplier would require to meet or manage expected demand.

2.40 Our reasons for arriving at the above overall conclusion is that the proposal:

2.40.1 was based on achieving an enhanced level of network security that did not exist before 2010;

2.40.2 in our view, did not demonstrate consumer support for the move to an enhanced level of network security, therefore proposing higher than appropriate service standards, as:

2.40.2.1 Orion provided consumers with only one price/quality trade-off option and asked whether they wanted that outcome or not; and

2.40.2.2 the single quality option provided to consumers presented reliability (as measured by SAIDI and SAIFI) and increased security standards (described by Orion as returning to near pre-earthquake levels of resilience) as a single linked option without acknowledging the very different cost/quality trade-offs involved;

2.40.3 had been subject to insufficient internal top-down assessment and challenge process for the forecast expenditure;

2.40.4 in our view, made assumptions which were not fully justified (or were inappropriate);

2.40.5 in our view, made insufficient use of business cases that considered the costs and benefits of different investment options;

2.40.6 in our view, made insufficient acknowledgement and justification for the step change in proposed expenditure compared to historic levels;

2.40.7 made little or no recognition of option value from deferring expenditure given uncertainty in demand growth and location; and

2.40.8 while we accepted Orion's demand forecast of peak and non-peak demand and quantities, in some specific cases the proposal included unreasonable or unjustified levels of forecast demand.

2.41 Box 2.2 provides a selection of views that we received which support these conclusions.

Box 2.2 – Views that support our conclusions on Orion's proposed opex and capex

Proposal was based on achieving an enhanced level of network security that did not exist before 2010

" … the forecast capital expenditure for developing the network is based on a planning standard that goes beyond the return to pre-earthquake quality levels that are expected by Orion's consumers and other stakeholders".[81]

Strata endorses Partna's view that "… Orion's expenditure proposal for CPP1 would result in too much subtransmission being built in north Christchurch too quickly. Orion's pre-earthquake development planning for this area indicates that a simpler, less extensive/expensive network architecture would securely meet currently forecast north Christchurch demand within the CPP period and beyond".[82]

Proposal did not demonstrate consumer support for the move to an enhanced level network security

"Orion's proposal to consumers was for a single price/quality option – it provided no information on alternative price/quality paths that would give consumers information on the sensitivity of its proposal to different assumptions. Strata considers that providing sensitivity information of this sort to consumers is an essential component of fully informing consumers prior to soliciting their preferences. In its absence, it is not possible for consumers to provide fully informed views that may be relied upon."[83]

"… in the absence of any compelling evidence to the contrary, Strata supports the view that most consumers would expect a return to pre-earthquake quality levels within a reasonable timeframe"[84]

"Orion's pre-earthquake reliability was very good by New Zealand standards and we have seen no evidence that consumers would want this in preference to other price-quality paths that might be available."[85]

In submissions to us, consumers were more concerned with limiting price increases in electricity prices than with improving the current level of service or improving resilience.[86]

---

81 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Ltd CPP Proposal and submissions Report to The Commerce Commission" (19 November 2013) p.7.

82 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Ltd CPP Proposal and submissions Report to The Commerce Commission (19 November 2013) p.21.

83 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Ltd CPP Proposal and submissions Report to The Commerce Commission" (19 November 2013) p.12.

84 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Ltd CPP Proposal and submissions Report to The Commerce Commission" (19 November 2013) p.12.

85 Geoff Brown & Associates Ltd "Verification Report", p.9 in Orion New Zealand Limited "Application for a customised price-quality path" (1 March 2013), Appendix 7.

86 See for example the quotes at paragraphs 2.42-2.44.

"We suggest that stakeholder (and most particularly consumer) consultation is more helpful than consultation measuring general consumer satisfaction when there are two or more distinct alternatives to choose from. If this is the case, then stakeholder consultation as part of this CPP approval process will be most effective if consumers are presented with possible alternative price-quality paths with the impact of each alternative on both quality and price appropriately quantified."[87]

<u>Insufficient internal top-down assessment and challenge process for the forecast expenditure</u>

"Processes in place at a corporate level to challenge or control expenditure forecasts were weak."[88]

"[W]e consider that the high level controls to ensure that the opex forecast was both reasonable and efficient were weak."[89]

"The annual replacement programme is determined by our Infrastructure Lifecycle Manager and the Network Asset Manager in conjunction with the scheduled maintenance programmes for each asset category. A similar process…has been adopted for the CPP forecasts, albeit without the benefit of annual review and refinement which is a normal part of our budgeting and planning process."[90]

"The proposed expenditure shows hallmarks of a bottom up budgeting process with insufficient evidence of a rigorous top down review."[91]

"An important component of the expenditure assessment process is rigorous governance and executive level review of the proposed spending programmes. Key questions that should be addressed at the governance level are:

(a) What are the key assumptions and do we accept them?

(b) Do we need to spend all the proposed expenditure?

(c) Can savings be expected to be made prior to committing the expenditure?

(d) Will we and can we spend this money?

The expenditure forecasts contained in the CPP proposal and supporting information provided by Orion did not indicate that a rigorous challenge had been undertaken."[92]

---

87 Geoff Brown & Associates Ltd "Verification Report", p.9 in Orion New Zealand Limited "Application for a customised price-quality path" (1 March 2013), Appendix 7.

88 Geoff Brown & Associates Ltd "Verification of Orion's CPP Proposal" (1 March 2013), Presentation to Commerce Commission, p.7.

89 Geoff Brown & Associates Ltd "Verification Report", p.56.

90 Orion "Proposal for a customised price-quality path" (19 February 2013), p.513.

91 Strata Energy Consulting Limited "Presentation to the Commission" (7 June 2013), p.3.

92 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Ltd CPP Proposal and submissions Report to The Commerce Commission" (19 November 2013), p.41.

<u>Assumptions were not fully justified or inappropriate assumptions were used</u>

"Our main reservation is that Orion's asset management systems and processes, and indeed its CPP proposal, are underpinned by high level assumptions that are taken for granted. In our view, the reasonableness of these assumption[s] merit further scrutiny, and possibly public debate, as Orion recovers from the earthquakes."[93]

"[T]he replacement expenditure profile for most asset classes is predicated on the basis that risk levels at the end of the 10-year modelling period should mirror the current (pre-earthquake) risk levels. No consideration is given to whether this level of risk is appropriate or to differences in the level of risk between asset classes if risk was assessed from an overall business perspective."[94]

"A surge in wage inflation should be expected and to some extent has already been observed but near term wage inflation of 7.5% is high by NZ and international experience and is large relative to experience of Canterbury construction labour costs to date. It is extremely unlikely that such high levels of inflation would persist."[95]

"[T]here is a potential trade-off between expenditure and reliability, although quantifying this trade-off is outside our current scope. More specifically, there are indications that modifying Orion's security standard to extend restoration times following an N-2 sub-transmission event could materially reduce the required network capex going forward, without having a substantial impact of reliability."[96]

<u>There was insufficient use of business cases that considered the costs and benefits of different investment options</u>

"There is no requirement for large one-off projects to be supported by a detailed business case with a detailed comparison of alternative options or to be individually signed off by the Board."[97]

"[W]e have not seen the level of cost benefit and consumer-need analysis on a project-by-project basis that we would expect to see in support of expenditures of the size included in Orion's major capex plan."[98]

"While [Orion's] green field justification for the architecture is useful as a guide, the economic efficiency of the proposed projects can only be tested on a brown field basis. In this regard we do not consider that Orion has adequately tested the projects proposed."[99]

---

93 Geoff Brown & Associates Ltd "Verification Report", p.18.
94 Geoff Brown & Associates Ltd "Verification Report", p.36.
95 New Zealand Institute of Economic Research (NZIER) "Labour cost escalation in Canterbury" (July 2013), p.1.
96 Geoff Brown & Associates Ltd "Verification Report", p.9.
97 Geoff Brown & Associates Ltd "Verification Report", p.17
98 Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013), p.15.
99 Partna Consulting Group "Findings on the Orion CPP Proposal – Urban Major Projects – North (CPP1) and Dallington (CPP2)" (June 2013), p.4.

<u>There was insufficient acknowledgement and justification for the step change in proposed expenditure compared to historic levels</u>

“The CPP as proposed provides for significant increases in network development, asset replacement capex and opex. At the same time, Orion intends to acquire additional subtransmission assets from Transpower. This would represent an extremely ambitious programme during normal times.”[100]

“In our view, Orion’s proposed step changes in all major expenditure areas are not fully justified and should be adjusted.”[101]

“Over the two year period FY13-FY14 Orion’s total network works expenditure is expected to increase by 84% above the level achieved in FY12 and we question whether the delivery of such a large increase in works over such a short period of time is achievable.”[102]

<u>There was little or no recognition of option value from deferring expenditure given uncertainty in demand growth and location</u>

“There are likely to be development alternatives that can be more effectively staged to match the timing of demand growth (accounting for the uncertainty involved) and provide optionality as to when and how Orion’s reliability and resilience criteria are met.”[103]

“There is a high level of uncertainty in the environment within which Orion will need to operate over the forecast period. This relates not only to the rate and location of demand growth, but also to the costs that Orion will incur in delivering its capex and opex programme…[I]n its appraisal the Commission should primarily focus on the need for the works described in the CPP proposal and the benefits that these works will provide consumers and other stakeholders.”[104]

<u>While we accepted Orion’s demand forecast of peak and non-peak demand and quantities, in some specific cases the proposal included unreasonable or unjustified levels of forecast demand</u>

After reviewing Orion’s proposed major projects, Strata finds that a number are subject to planning uncertainty associated with load forecasts including currently uncommitted largely new loads, yet Orion proposes to include 100% of the cost of these projects during the CPP period.[105]

---

100 Strata Energy Consulting Limited “Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal” (2 August 2013), p.55.

101 Strata Energy Consulting Limited “Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal” (2 August 2013), p.6.

102 Geoff Brown & Associates Ltd "Verification Report”, p.1.

103 Partna Consulting Group “Findings on the Orion CPP Proposal – Urban Major Projects – North (CPP1) and Dallington (CPP2)” (June 2013), Report for the Commission) p.4.

104 Geoff Brown & Associates Ltd "Verification Report”, p.1.

105 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Ltd CPP Proposal and submissions” (19 November 2013), pp.44-65.

Overall conclusion - too much expenditure, too soon
"We consider that during post-earthquake reconstruction, the highest priority expenditures should proceed, but it is to the benefit of consumers if expenditure that can be reasonably deferred, is deferred."[106]   "[The] replacement capex is larger than would be expected given the: i) age and condition of assets; and ii) impact of the network development programme."[107]

Views of consumers

2.42 We invited submissions from consumers and other interested parties on Orion's proposal when we released our issues paper.[108] Our issues paper could not provide detailed information on specific alternative investment strategies that result in a different price-quality path to that consulted on by Orion, and did not give a substantially more reliable view of what consumers wanted than Orion's consultation. However, the submissions that we received from consumers were more concerned with increases in electricity prices than with improving reliability beyond the pre-earthquake level of service. For example, Smart Power submitted that:[109]

> ..we don't get feedback from our client base that would indicate that they were unhappy with the security of supply on Orion's network. As such we do not believe there is a ground swell of demand for improved performance and this would be particularly true if it were to result in additional cost.

2.43 Synlait Milk Limited submitted that:[110]

> We do not consider that there is a general need to create a network which was better than the one previously in existence and also that while it may appear opportune to Orion to do this now it is inappropriate in terms of consumer's ability to pay for it at this time.

2.44 Major Electricity Users' Group submitted:[111]

---

106 Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013), p.14.

107 Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013), p.6.

108 Commerce Commission "Invitation to have your say on Orion's proposal to change its prices and quality standards - Issues to explore and consider" (1 May 2013).

109 Smart Power "Smart Power submission on Orion's proposal' (29 May 2013), p.1.

110 Synlait Milk Ltd "Response to Commerce Commission's Invitation to have your say on Orion's proposal to change its prices and quality standards" (31 May 2013), p.2. See also the NZ Manufacturers and Exporters Association, "Orion's Proposal to Change its Prices and Quality Standards", 24 May 2013, pp.2-4.

111 Major Electricity Users Group "Orion's CPP Proposal" (24 May 2013), p.2.

> The priority should be to limit increases in Orion charges and given that limit for Orion to demonstrate it is applying resources to the highest priority work that customers will benefit from.

2.45 Given the small number and limited range of submissions we received from consumers, and the difficulty in knowing what consumers want (as Vector's submission acknowledges), we do not know what level of quality consumers demand. [112] However, with the limited information available, there seems to be broad acceptance that the pre-earthquake reliability levels met consumer expectations. In addition, we note Orion had a relatively highly reliable network pre-earthquake, and services were generally restored quickly after the earthquakes. Satisfaction surveys prepared by Orion in years prior to the earthquake were generally favourable.[113] There is no evidence to support the case that consumers would like to pay more for a network with greater than pre-earthquake security of supply.

We needed to develop our own view on required opex and capex

2.46 Overall, we considered that Orion's proposed levels of opex and capex were greater than was prudently required to satisfy the expenditure objective. Using Orion's forecasts as a basis for setting the customised price-quality path would lead either to over-investment (to the detriment of consumers if Orion actually spent what they had forecast to spend) or to Orion earning excessive returns (if actual spending more closely reflected the level of expenditure required by the network during the CPP period). Neither of these outcomes would be consistent with the purpose of Part 4.

2.47 Our conclusions meant that Orion's unadjusted expenditure forecasts could not be used as inputs to set the customised price-quality path. Rather, we had to develop our own forecasts of opex and capex for the CPP period so as to satisfy the expenditure objective. We presented our initial views of the opex and capex required to satisfy the expenditure objective in our draft reasons paper and have updated our views in light of submissions. Our final view on the opex and capex to satisfy the expenditure objective is set out in Chapter 3.

Views raised in submissions

2.48 Some submitters disagreed that we should substitute our own view on appropriate levels of opex and capex for that of Orion, citing Orion's experience, knowledge, and

112 Vector, "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013) at pp.20-21.

113 Orion provided a summary of its satisfaction surveys in the Orion "Proposal for a customised price-quality path"(19 February 2013), pp.377-378.

accountability for delivering services to its consumers.[114] However, we note these submissions did not substantively challenge our conclusions from our evaluation of Orion's proposal (as set out in Box 2.2 of our draft reasons paper). The Act requires us to set a price-quality path that satisfies the purpose of Part 4 and, given our conclusions above, Orion's proposal is not an appropriate basis for doing so. Therefore, we had to develop our own forecasts of opex and capex so as to satisfy the expenditure objective.

2.49 In its submission on our draft decision, Orion submitted a reduced estimate of the amount of opex and capex necessary to meet its proposed reliability limits. In particular Orion:

2.49.1 submitted a reduction in the amount of capex required for major projects compared to that included in its proposal;

2.49.2 submitted a $6 million reduction over the CPP period in asset replacement capex compared to that included in its proposal;

2.49.3 submitted a $15 million reduction over the CPP period in network maintenance operating expenditure compared to that included in its proposal; and

2.49.4 agreed with the allowance for network management and operations expenditure included in our draft decision (a $5 million reduction over the CPP period from that in its proposal).

2.50 This supports our view that its CPP proposal contained forecasts which assumed too much expenditure during the CPP period.

2.51 In addition Orion indicated it would still be able to achieve the reliability limits contained its original proposal with the above reductions to its forecast expenditure.

2.52 While accepting a reduction in expenditure, Orion also submitted that if we confirmed the expenditure reductions we had proposed in the draft decision, then less demanding reliability limits should be determined. We respond to this submission in Attachment L on the appropriate reliability limits.

---

114 See for example, Electricity Networks Association, "Comment on the Draft Decision on Orion's CPP Application and Implications for the Future Implementation of Part 4" (18 September 2013) p.12; Christchurch City Holdings Limited "Submission to the Commerce Commission in response to Draft Customised Price Path decision for Orion" (19 September 2013), pp.3-4.

Claw-back for lower than expected revenues is not consistent with Part 4

2.53 In its proposal, Orion sought higher prices during the CPP period (and in the following regulatory period) to claw-back the additional net costs and lower-than-forecast revenues earned during the period from the earthquakes until the price-quality path is reset. Under Orion's proposed approach to claw-back, consumers would bear all the risks and costs associated with the earthquakes, which would not be consistent with the purpose of Part 4.

2.54 For the reasons set out in Attachment B, we do not agree with Orion's approach. In our view, the financial impact of the earthquakes should be shared between Orion and its consumers. In our view, sharing the costs and risks of the earthquakes between Orion and consumers is appropriate because:

2.54.1 sharing the risks of catastrophic events is more consistent with the Part 4 purpose than consumers bearing all the risks;

2.54.2 a well-diversified investor would require little or no *ex ante* compensation for bearing the demand risk specific to a particular EDB;

2.54.3 there was no *ex ante* agreement for consumers to bear all the costs of the earthquakes; and

2.54.4 under incentive regulation regulated suppliers can expect to earn a normal return, but regulation provides no guarantee that suppliers will earn a normal return.

3. Opex and capex allowances for Orion's customised price-quality path

Purpose of this chapter

3.1 This chapter explains how we have determined the opex and capex required by Orion's network during the CPP period to satisfy the expenditure objective.

Overview of the approach to setting a CPP

3.2 Under s 53V of the Act the Commission may determine any CPP that it considers appropriate for a supplier that has made a proposal. The scope of this power is broad in the sense that, as clarified under subsection (2) of that section, we may set a price-quality path that is lower or otherwise less favourable to the regulated supplier than a DPP; or, we may set a higher price than applied under a DPP. However, we are restricted in that:

3.2.1 we must set a CPP that complies with s 53M (which contains the generic provisions applicable to a price-quality path);

3.2.2 in the absence of any agreed variation to an applicable IM under s 53V(2)(c), we must apply all relevant applicable IMs;[115] and

3.2.3 an appropriate customised price-quality path must meet the purpose of Part 4.

3.3 For the reasons outlined in the previous chapter, we do not accept Orion's proposed levels of opex and capex are a reasonable basis for setting a customised price-quality path for Orion. In our view, using them to set a price-quality path would not promote the long-term benefit of consumers.

Our options for determining opex and capex forecasts for the price-quality path

3.4 Our approach to determining opex and capex forecasts for the price-quality path is driven by the Part 4 purpose statement. The long-term interests of consumers are met by an allowance for opex and capex that meets the expenditure objective. This ensures that the prices consumers are charged, and the quality of services that are required, reflect demand and the current performance of the network, consumers'

---

115 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.2.

quality requirements,[116] the network's need for expenditure to fill the gap, and the expectation of a normal return.

3.5 Given we considered we could not use Orion's opex and capex proposals to set the price-quality path, we had three options to develop alternative opex and capex forecasts.[117] These options were to set opex and capex:

3.5.1 based on Orion's historical levels of opex and capex;

3.5.2 using a step and trend approach, similar to that used for expenditure forecasts in the DPP; or

3.5.3 by adjusting Orion's forecasts following a more detailed assessment of Orion's proposal and the needs of its network.

3.6 In our view, the third option involving a more detailed assessment of Orion's proposal was most likely to identify a level of expenditure which was consistent with the expenditure objective. This was because that option:

3.6.1 took account of Orion's specific circumstances;

3.6.2 allowed us to identify and address specific weakness in Orion's proposal and therefore resulted in a forecast of expenditure required to satisfy the expenditure objective;

3.6.3 provided Orion with a better opportunity to address our concerns (in particular, in response to our draft decision which set out our view on the appropriate level of opex and capex); and

3.6.4 meant we were targeting only the areas of Orion's proposal where we had identified an issue.[118]

---

116 Our view on the consumer quality requirements are informed by comments received in our consultation, and to a lesser extent by Orion's consultation with consumers. We generally agree with Orion that, in the absence of any evidence that consumers expect or would prefer different (higher or lower) quality levels, depending on price of delivering the different levels of quality, the goal should be to return quality to a standard similar to that enjoyed prior to the Canterbury earthquakes.

117 Note also that although the verifier questioned, in some areas, whether the opex and capex proposed by Orion was fully justified, the verifier did not quantify what level of expenditure the verifier thought was appropriate (and the verifier was not required to do this). See, for example, the discussion on asset replacement expenditure Geoff Brown & Associates Ltd "Verification Report" in Orion New Zealand Limited "Application for a customised price-quality path" (1 March 2013), Appendix 7, p.36.

118 In areas where we have no issue, the opex and capex forecasts used by us still incorporate Orion's view on the required opex and capex. This is appropriate as Orion has better information on its expenditure needs generally – any other options would not incorporate this information.

3.7 The detailed assessment approach still recognises that it is neither practicable, nor desirable, for us to attempt to replicate the asset management and decision-making processes of Orion. Rather, we have sought to undertake a robust assessment of Orion's forecasts in the time available and with available resources, including expert advisors, to ensure the expenditure allowances are not higher than is necessary to provide the regulated services, consistent with the expenditure objective.[119] Our approach allows Orion to invest further in its network during the CPP period, while limiting its ability to earn excessive profit.

3.8 We note that while there is a cost to consumers from us developing our own forecasts, the end result is significantly lower price increases. The end result is significantly lower price increases to consumers than proposed by Orion, while ensuring an improving reliability of services for consumers after the earthquakes, as proposed by Orion, during the CPP period.

A detailed assessment of opex and capex forecasts utilising Orion's expenditure forecasts was used for the draft decision

3.9 In our approach to setting opex and capex allowances for Orion, we identified the areas of expenditure where we would undertake more detailed assessment. Our assessment of the areas of expenditure in the first instance was broken down as per Orion's proposal (which breaks expenditure into major projects, connections, reinforcement, etc).

3.10 We identified areas of focus for our more detailed assessment of expenditure and we therefore did not look at all areas of expenditure. For example, we did not review Orion's proposed expenditure on non-system fixed assets or information technology costs.

3.11 In the areas where we undertook more detailed assessment, we took a progressive approach considering further detail and disaggregation of the proposed expenditure until:

3.11.1 we were satisfied that Orion had demonstrated that the particular component of Orion's proposal met the expenditure objective;[120] or

3.11.2 where Orion could not demonstrate the proposed expenditure met the expenditure objective, we or our expert advisors were able to estimate the level of expenditure that met the expenditure objective (either by adjusting Orion's forecast or by substituting an alternative view).

---

119 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.5.1.

120 As we were, for example, with Orion's reinforcement expenditure proposal. Refer Attachment H.

3.12 Our process differed for different types of expenditure. For example, we were dependent on the type of information Orion could provide which was greater in some areas (eg, major projects) than in other areas.

3.13 Important elements of our detailed analysis were to:

3.13.1 identify the driver for the expenditure;

3.13.2 assess the robustness of the business case (or rationale) for the expenditure (including considering alternative options and the relative benefits of the proposed expenditure);

3.13.3 assess benefits to consumers over the long term;

3.13.4 assess the robustness of the assumptions and external factors, including the level of uncertainty;

3.13.5 consider the robustness of the forecast process used;

3.13.6 consider the maturity of Orion's asset management practice; and

3.13.7 consider the scope for synergies.

3.14 We have previously noted the importance of judgement in assessing expenditure.[121] To support our exercise of judgement, we obtained a range of advice. For example, we used:

3.14.1 Strata to advise on various technical aspects of Orion's proposal;[122]

3.14.2 Partna to advise on two large urban major projects in Orion's proposal;[123]

3.14.3 Calverton to look at the comparative costs of underground and overhead lines;[124] and

---

121 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.5.1.

122 See Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013) and Strata Energy Consulting "Technical Advisor Report Further advice on the Orion New Zealand Limited CPP Proposal and submissions Report to the Commerce Commission" (19 November 2013). In the draft decision we undertook analysis ourselves on projects CPP3 to CPP 20, and had Strata peer-review this analysis (this is discussed, at Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision" (14 August 2013), paragraph 2.14.3). For our final decision, Strata has reviewed and revised the analysis of projects CPP3-20 in light of submissions, and we reviewed and then accepted its conclusions on those projects.

123 Partna Consulting Group "Findings on the Orion CPP Proposal – Urban Major Projects - North (CPP1) and Dallington (CPP2)" (June 2013).

3.14.4 NZIER both to review the reasonableness of Orion's forecasts of construction related Canterbury labour costs, and to provide its own forecasts of the rate of escalation of these costs.[125]

Final allowance for opex and capex

3.15 A number of submissions included views on the appropriate allowance for opex and capex which we should use when setting Orion's price-quality path. These submissions, and subsequent cross-submissions, are available on our website.

3.16 We reviewed these submissions and gave copies of relevant submissions to our advisors, with whom we:

3.16.1 discussed the key themes emerging from submissions with our advisors;

3.16.2 agreed the scope of the work we required from them;

3.16.3 agreed the approach they should undertake in their work;

3.16.4 discussed the analysis and conclusions our advisor reached;

3.16.5 reviewed and provided comment on the additional written advice; and

3.16.6 considered whether to accept or reject their advice in whole or in part.

3.17 We subjected this advice and analysis to oversight and critical evaluation, and after considering it, made our final decision.

3.18 Some submitters were concerned that we were removing efficiency gains from Orion before they had been achieved. However, we have not sought to set the path assuming a highly efficient performance (such as to be at the productive efficiency frontier), nor have we set the path assuming rapid improvement towards such a level. Our assessment of expenditure has been carried out under the expenditure objective. We consider that Orion has a realistic prospect of making efficiency gains during the CPP period that would see it out-perform our allowances for expenditure while satisfying the reliability limits.

---

124 Calverton Business Consulting Group "Orion CPP Proposal: Comparative Costing for Overhead and Underground Lines" (1 July 2013).

125 New Zealand Institute of Economic Research (NZIER) "Canterbury Labour cost Escalation: Assessment of Orion's Projections" (17 June 2013). New Zealand Institute of Economic Research (NZIER) "Labour cost escalation in Canterbury" (July 2013). New Zealand Institute of Economic Research "Measuring labour cost escalation in Canterbury, Comments on Orion's submission and Infometrics forecasts, NZIER report to the Commerce Commission" (4 October 2013).

3.19 Our opex and capex forecasts are summarised in Chapter 4. Details of how we have determined the allowances for individual items are set out in Attachments D to H (for items of capital expenditure)[126] and Attachments I to K (for items of operating expenditure).[127] Cost escalation factors are covered in Attachment N.

3.20 We have sought to test the reasonableness of our projections, including by looking at historical levels of expenditure both before and after the Canterbury earthquakes.[128]

3.21 Although we allow somewhat less revenue than what Orion proposed, we have provided significantly higher revenue than Orion would receive on its current price path. We consider we have allowed sufficient revenue to meet the level of opex and capex required during the CPP regulatory period to meet the expenditure objective.

3.22 We have then used these forecasts of opex and capex to develop a customised price-quality path. The steps in this process are explained further in Chapter 4.

3.23 Under information disclosure we intend to monitor Orion's actual expenditure against the expenditure allowance when setting the CPP.

Promoting energy efficiency and demand side management, and reducing energy losses

3.24 Section 54Q of the Act requires that we promote incentives and avoid imposing disincentives on Orion to invest in energy efficiency and demand side management, and to reduce energy losses. We have been mindful of this obligation in determining the appropriate opex and capex for Orion. For instance, Orion's proposal included a project to install power factor correction equipment in the rural network (ie CPP12), which will reduce energy losses and therefore promote energy efficiency, consistent with s 54Q. In setting the final capex allowance for Orion's CPP, we have accepted that this project is prudent. We also would expect that as part of managing the expected demand for electricity distribution services, as is required under the expenditure objective, a prudent EDB would take into account both network as well as non-network alternatives.[129]

---

126 Capex on major projects is covered in Attachment D, the replacement of network assets is covered in Attachment E, connections and extensions is covered in Attachment F, conversions and undergounding in Attachment G, and network reinforcement in Attachment H.

127 Maintenance of network assets is covered in Attachment I, network management and operations in Attachment J, and general management, administration and overheads in Attachment K.

128 See also our discussion of Orion's actual financial results for the year to March 2013 in Attachment P.

129 For example, the footnote to paragraph 2.30 highlights where the IMs refer to the consideration of non-network alternatives in CPP proposals.

Claw-back and no separate *ex ante* allowance for catastrophic events

3.25 Our view is that the realised costs and risks of the Canterbury earthquakes should be shared between Orion and consumers. Accordingly, we allow part of Orion's claim for claw-back but not all. Specifically, we allow for the additional net costs incurred by Orion, but not the reductions in demand which reduced revenue to Orion. This is discussed further in Attachment B.[130]

3.26 We have also considered whether we should make a separate *ex ante* allowance in Orion's price-quality path for any impacts of any future catastrophic events on Orion during the CPP period. We have decided that in the event of any future catastrophic event, *ex post* compensation may be provided for prudent additional net opex and capex costs, but that there will be no compensation for demand risk.

3.27 In short, our approach strikes a balance between:

3.27.1 incentivising suppliers to respond quickly in the aftermath of a catastrophic event so as to meet demand for services, by compensating them for prudent additional net costs required to repair their networks over the first two to three years; and

3.27.2 ensuring that suppliers are not compensated for all additional costs and lower-than-forecast revenues incurred in response to the catastrophic event, thereby preserving their incentives to manage risk efficiently.

3.28 Attachment C sets out the reasons for our proposed treatment of any future catastrophic events in further detail.

130 Its inclusion in the price-path is discussed at paragraphs 4.56 to 4.59 of Chapter 4.

4. How we set Orion's customised price-quality path

Purpose of this chapter

4.1 This chapter outlines how we set Orion's CPP. We start with an overview of the evaluation approach discussed in Chapters 2 and 3 and then discuss Orion's maximum allowable revenue (MAR). This involves setting Orion's forecast allowable revenue equal to a forecast of its costs (that is, in the case of opex and capex, the expenditure that meets the expenditure objective).

4.2 We then show in more detail how the results of our evaluation of Orion's proposal have informed our final decision. We set out the steps we used to determine Orion's CPP and how those steps relate to the IMs.[131] This includes briefly explaining how the quality standards that we have set for Orion fit into the determination of the CPP.[132]

We have set Orion's forecast allowable revenue equal to its forecast efficient costs

4.3 Our general approach in determining Orion's CPP was to set Orion's forecast allowable revenue equal to a forecast of its costs. Figure 4.1 shows the key aspects of the approach we took.

4.4 We calculated building blocks allowable revenue (BBAR) in each and every year of the CPP regulatory period. The building block amounts vary depending on a number of factors, such as differences in the amount of opex forecast between years.

4.5 We then added the amount of past costs incurred due to the earthquakes that we have allowed Orion to recover across the CPP regulatory period (claw-back).[133]

4.6 Next, we calculated the present value of BBAR and claw-back over the present value period. The discount rate used in the present value calculation for BBAR is the cost of capital. The discount rate used to calculate the present value of claw-back is the pre-tax debt rate.

4.7 Finally, we determined the path of revenue that would mean that Orion was able to recover the present value of BBAR and claw-back over the present value period

---

131 Attachment A discusses the regulatory framework under which we have determined Orion's CPP. The spreadsheet model we used to calculate the financial values for Orion's customised price-quality path has been released with this paper and is explained in Attachment P.

132 Attachment L explains our reasons for the quality standards that Orion will be required to meet during the CPP in more detail.

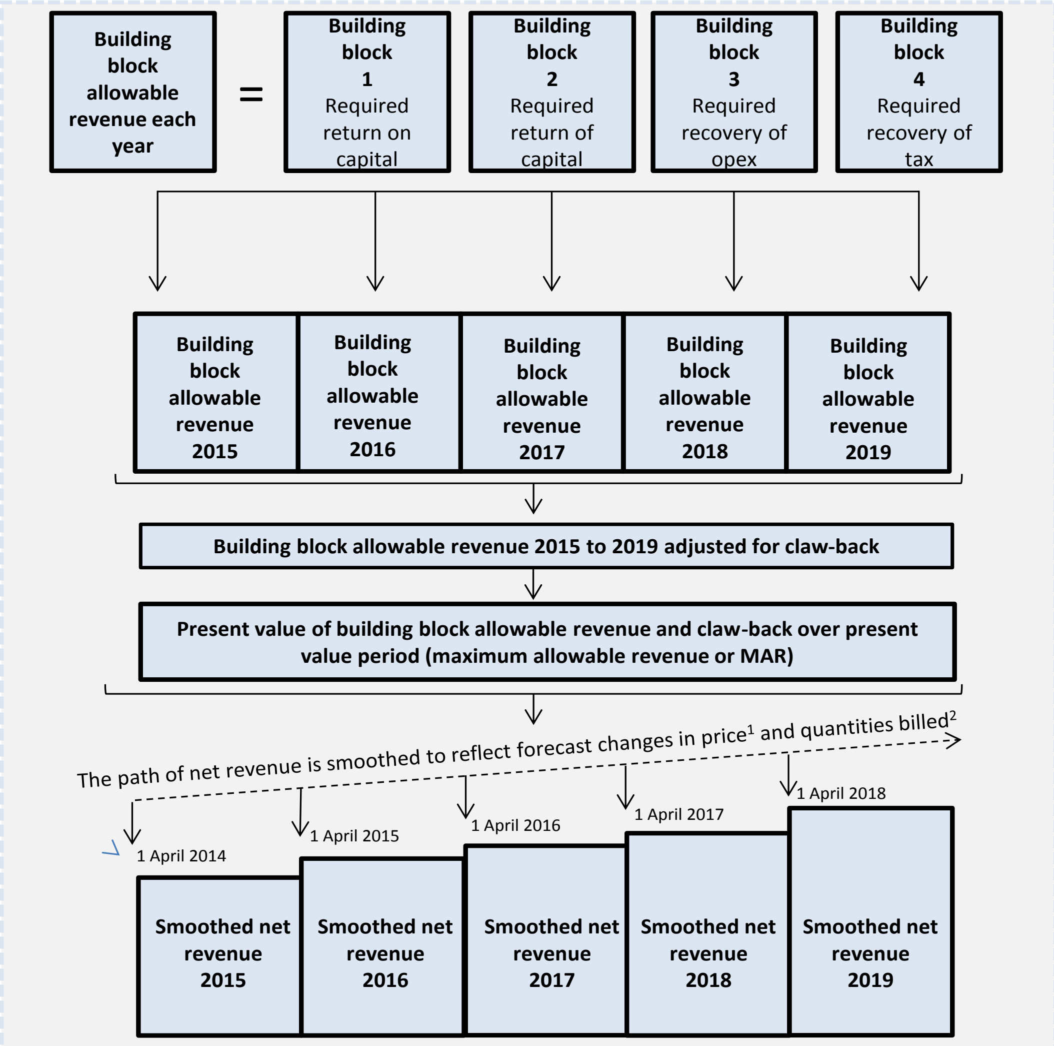
133 Attachment B discusses our assessment of Orion's proposed recovery of past costs and revenues (claw-back). Under-recovered pass though costs are included as a component of the claw-back calculation.

taking into account forecast inflation and growth in demand. This 'smoothed' path involved the calculation of MAR for each year, and:

4.7.1 starts on 1 April 2014; and

4.7.2 determines the amount of revenue that Orion can expect to recover through its distribution charges between 1 April 2014 and 31 March 2019.

Figure 4.1 – Setting Orion's forecast allowable revenues equal to its forecast costs



Note 1: Changes in price known as CPI-X .
Note 2: Changes in quantities billed known as ΔQ

4.8 The slope of the 'smoothed' path of maximum allowable revenues reflects the factors that affect Orion's revenue during the regulatory period. In particular, Orion's revenue path depends on:

4.8.1 the change that Orion is able to make to its maximum average prices annually, which we have set relative to the CPI (and for Orion is CPI+1%); and

4.8.2 forecast changes in the quantities billed, which result in 'constant price revenue growth'.[134]

4.9 Once we have determined the appropriate 'smoothed' revenue figure for 2015 (ie, the year commencing 1 April 2014 and ending 31 March 2015), it is possible to calculate the starting prices for Orion's CPP (ie, as at 1 April 2014) that result in Orion expecting to earn the appropriate amount of revenue in 2015. The change in starting prices (ie, 8.4%) is the expected change in prices in 2015 relative to the prices that apply in 2014 if Orion sets prices to recover its MAR in 2015.[135]

Determining Orion's customised price-quality path has included thirteen steps

4.10 For the purpose of explaining how we have set Orion's customised price-quality path we have set out thirteen steps. While this was appropriate for Orion's CPP, it is not necessarily the case that we would adopt the same thirteen steps in considering a subsequent CPP application. After introducing each of the steps, we then explain the reasons for our decision at each step.

Step one

4.11 First, we identified the IMs that apply to setting Orion's CPP, including any agreed variations. The IMs must be applied when determining a price-quality path.

Step two

4.12 Second, we determined the CPP regulatory period to apply to Orion. We considered whether a period of less than five years would be more appropriate because of uncertainty about the costs and timing of the recovery from the Canterbury earthquakes.

Step three

4.13 Next, we made decisions about the forecast opex and capex allowances that inform the determination of Orion's CPP. We considered what opex and capex was necessary for Orion to meet the expenditure objective, during the CPP regulatory period and over the longer term. A key step in applying the expenditure objective was determining the appropriate service standards.[136]

---

[134] This is discussed in Attachment O.

[135] The 8.4% change in starting prices is an estimate as although the MAR for 2015 under the CPP is a fixed amount, the revenues to be recovered in 2014 under the DPP are not yet known with certainty.

[136] As set out in attachment L our view is that the appropriate long term service standards (as defined by reliability limits measured by SAIDI and SAIFI) is the pre-earthquake levels of reliability. Orion has

Step four

4.14 We then calculated the value of the building block components that comprise Orion's building blocks allowable revenue (BBAR before tax and after tax).

Step five

4.15 After that, we calculated Orion's BBARs for each year of the CPP regulatory period.

Step six

4.16 The BBAR amounts for the CPP regulatory period were then converted to a total present value of BBAR at 1 April 2014 using the CPP cost of capital.

Step seven

4.17 Orion's allowable claw-back amounts were then determined.[137]

Step eight

4.18 The claw-back amounts were then converted to a present value of claw-back as at 1 April 2014 using the pre-tax debt rate.

Step nine

4.19 Next, we combined the present value BBAR and claw-back amounts. This enabled us to calculate Orion's total MAR before tax and after tax for the CPP period as at 1 April 2014.

Step ten

4.20 Consumer Price Index (CPI) and constant price revenue forecasts were then determined for the CPP period. This is consistent with the IMs, which set out the calculation requirements for the setting of a price path.

Step eleven

4.21 The X-factor (rate of change) to apply to Orion's 'CPI-X' price path was then determined for the CPP period. We then considered how to mitigate potential price shock effects in the CPP period as a result of our determination.

---

proposed a path to return to this level over an extended time period resulting in proposed limits by the end of the CPP period that are within 25% of pre-earthquake levels. We have accepted these limits in the absence of any strong evidence that, in aggregate, Orion's consumers have a different view on either the long term level of reliability or pace at which they are achieved.

137 Attachment B discusses our analysis of the recovery of past costs and revenues (claw-back) and Attachment C discusses our treatment of future catastrophic events under the CPP.

Step twelve

4.22 We then smoothed the total MAR over the CPP period to determine a MAR before and after tax in each and every year of the CPP regulatory period and the price path which determines the starting prices (P_0) to apply to Orion from 1 April 2014.

Step thirteen

4.23 Finally, we confirmed the quality standards that Orion will be required to meet during the CPP period. We checked that the MARs we had determined were sufficient for Orion to meet the demand for its service while achieving the reliability limits set out in our decision.

Step one – identify the input methodologies that apply

4.24 In order to calculate the BBAR for each of the years in the CPP regulatory period, the BBAR before tax formula and BBAR after tax formula in the IMs must be applied.[138] This in turn requires the application of:

4.24.1 the cost allocation and asset valuation IM;[139]

4.24.2 the treatment of taxation IM;[140]

4.24.3 the cost of capital IM;[141] and

4.24.4 our published determination which set the weighted average cost of capital (WACC) we have used for setting Orion's customised price-quality path.[142]

4.25 To convert the series of BBAR amounts and the claw-back to a series of MAR amounts for the CPP regulatory period and determine a price path for the CPP regulatory period requires the application of:

---

138 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 5.3.2-5.3.3.

139 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 5.3.5-5.3.12. The cost allocation IM covers the allocation of shared operating costs and shared asset values across different types of services provided by a regulated supplier. The asset valuation IM provides the basis for determining the *return of* and *return on* capital required by suppliers.

140 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 5.3.13-5.3.21. Tax costs are one of the main types of costs facing all regulated suppliers. Price-quality paths therefore need to be set to compensate suppliers for these costs.

141 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 5.3.22-5.3.32. This IM sets out how the Commission is to estimate a cost of capital for regulated services, which is the financial return investors require from an investment given its risk.

142 The cost of capital estimate we use in this decision was set in the following determination: *Cost of capital determination for electricity distribution businesses to apply to a customised price-quality path proposal* [2012] NZCC 25.

4.25.1 the price path IM;[143] and

4.25.2 the specification and definition of prices IM.[144]

The claw-back period required an agreed variation to the input methodologies

4.26 The calculation of claw-back required the application of the price path IM.[145] In particular, claw-back may be calculated (in Orion's case) for the period from the first earthquake in September 2010 to 31 March 2014.

4.27 Given the nature and significance of the Canterbury earthquakes, we considered that it was reasonable to provide Orion with flexibility regarding the timeframe for submitting its proposal. The IMs require that a CPP proposal arising from a catastrophic event must be received by the Commission within two years of the catastrophic event occurring.

4.28 We agreed with Orion that, for the purposes of the claw-back calculations, the date of the catastrophic event was 4 September 2010 (ie, the date of the first major earthquake).[146] This has been recorded as an agreed variation of the IMs, which applies because of Orion's specific circumstances.[147] This variation was required because the 4 September 2010 date is more than two years prior to our receipt of Orion's CPP proposal.

Step two - determine the CPP period

4.29 Our decision, on balance, is to set a five year term for Orion's CPP period, from 1 April 2014 to 31 March 2019. This part of our final decision is consistent with Orion's proposal.

---

143 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.4. This IM sets out the methodology required to ensure that the present value of the series of values of MAR after tax equals the present value of the series of BBAR after tax less any value of claw-back for the CPP period. Because the claw-back relates to a past under-recovery of this calculation, claw-back is a negative value.

144 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 3.1.1. This IM sets out the main design components of a price path, including the costs that can be passed through to prices (i.e., pass-through costs and recoverable costs).

145 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.4(4)(b).

146 Letter to David Freeman-Greene (Orion), *Re: Timeframe for submitting a CPP proposal in relation to the Canterbury earthquakes*, (17 May 2012).

147 Commerce Act 1986, s 53V(2)(c). Commerce Commission "Agreement to vary the input methodologies that will apply to Orion New Zealand Limited's CPP determination" (9 August 2013).

4.30 The standard length of a CPP period is five years. However, we are able to set a CPP for between three and five years if we consider it would better meet the purpose of Part 4.[148]

4.31 A shorter regulatory period may better reflect the uncertainty over:

4.31.1 the growth and profile of the electricity load in Canterbury;

4.31.2 the speed of the recovery and rebuild in Canterbury; and

4.31.3 the uncertainty over future labour costs.[149]

A shorter regulatory period does not necessarily reduce uncertainty

4.32 The current situation in Canterbury makes forecasting difficult, so the longer the regulatory period, the more potential exists for divergence between forecast and actual costs over the period. However, a shorter regulatory period can introduce uncertainty too. This is because issues considered for the CPP period can be revisited sooner.

4.33 We have considered whether a period less than five years would be more appropriate because of uncertainty about the costs and timing of the recovery from the Canterbury earthquakes. A shorter period, say three years, would enable Orion's price-quality path to be reset again in 2017. There is likely to be better information available about the speed and pattern of the rebuild at this time.

4.34 There are potential advantages for both Orion and consumers of a CPP period shorter than five years. For example, Orion could more accurately reflect its investment requirements and their cost. Consumers could have the opportunity of an earlier reset to reflect improved information about investment requirements.

There is a trade-off between providing strong incentives and reducing uncertainty

4.35 There is a trade-off between providing strong incentives for suppliers and reducing uncertainty about investment requirements and their cost.

4.36 Incentive regulation aims to give suppliers incentives to make efficient decisions by providing certainty over maximum average prices for a period (usually five years). This incentive effect is stronger when prices are set for longer rather than shorter periods, because a supplier can keep the efficiency gains and/or suffer the efficiency losses for longer (ie, before prices are reset).

---

148 Commerce Act 1986, s 53W.

149 We considered mechanisms for dealing with uncertainty over future labour costs in the Canterbury region, and discussed this with Orion. Our reasons for not introducing such mechanisms as part of Orion's CPP are discussed in Attachment N on cost escalation factors.

4.37 A supplier that makes cost efficiencies will earn greater returns by spending less than was assumed in the price-quality path. Conversely, a supplier that makes cost inefficiencies will earn lower returns by spending more than was assumed in the price-quality path.

Step three - determine forecast opex and capex allowances

4.38 In Chapter 3, we explained how we set forecast opex and capex allowances for the CPP regulatory period. Further discussion can be found in the attachments to this paper.[150]

Forecast opex

4.39 Our reasons for the forecast opex input totals in our decision are discussed in more detail in Attachments I, J, and K. Table 4.1 provides a summary by reconciling Orion's proposed opex with the allowances in our draft decision, Orion's submission on our draft decision, and our final decision.

Table 4.1 - Forecast opex input totals ($m)

Operating Expenditure	2015	2016	2017	2018	2019
Orion's Proposal	**61.2**	**65.2**	**64.9**	**66.4**	**69.9**
Draft Decision	**53.3**	**56.3**	**55.9**	**55.8**	**56.4**
Orion's Submission	**56.2**	**59.7**	**59.2**	**60.4**	**63.0**
Final Decision	**54.9**	**58.1**	**57.9**	**58.0**	**58.9**

Note: nominal values.

Source: The Orion submission figures is sourced from Orion's submission on page 78.

Forecast capex

4.40 Our reasons for the forecast capex totals in our decision are discussed in more detail in Attachments D, E, F, G and H. The value of forecast capex is used to establish a 'total value of commissioned assets' input for each year of the CPP regulatory period

[150] Refer in particular to Attachments D-K. Capex on major projects is covered in Attachment D, the replacement of network assets is covered in Attachment E, connections and extensions is covered in Attachment F, conversions and undergounding in Attachment G, and network reinforcement in Attachment H. Maintenance of network assets is covered in Attachment I, network management and operations in Attachment J, and general management, administration and overheads in Attachment K.

for the BBAR calculation by adopting the forecast annual commissioning date assumptions of the capex proposed by Orion.

4.41 Table 4.2 summarises Orion's proposed forecast value of commissioned assets, the allowances in our draft decision, and those in our final decision.

Table 4.2 - Forecast commissioned assets input totals ($m)

Commissioned Assets	2015	2016	2017	2018	2019
Orion's Proposal	**92.0**	**98.7**	**69.9**	**76.8**	**59.6**
Draft Decision	**76.0**	**55.7**	**45.5**	**56.3**	**35.7**
Final Decision	**64.6**	**48.3**	**44.5**	**54.7**	**39.4**

Note: nominal values.

Step four - calculate the value of the components that comprise BBAR

4.42 Our calculations of the main building block components that make up the BBAR amounts for each year of the CPP regulatory period are summarised in Table 4.3. These components are calculated in accordance with the IMs, and include our opex and capex allowances that meet the expenditure objective.

Table 4.3 – Main building blocks components for the CPP period ($m, unless stated)

Component	2015	2016	2017	2018	2019
Regulatory investment value	913.6	954.1	980.1	999.7	1,028.0
Cost of Capital	6.92%	6.92%	6.92%	6.92%	6.92%
Total value of commissioned assets	64.6	48.3	44.5	54.7	39.4
Total revaluation	18.1	21.9	21.3	21.8	22.4
Total depreciation	36.6	37.7	40.4	43.0	46.1
Forecast operating expenditure	54.9	58.1	57.9	58.0	58.9
Regulatory tax allowance	15.1	14.5	15.4	16.0	16.5

Note: nominal values.

4.43 Further detail on the following inputs to the BBAR calculations is provided below:

4.43.1 cost escalation factors, which are inputs for the conversion of real forecast values to nominal values used in setting inputs; and

4.43.2 depreciation, which is also an input to the RAB roll-forward and 'regulatory investment value' (RIV).

4.44 Further detail on other adjustments to the proposed modelling amounts that Orion submitted in its CPP proposal is set out in Attachment P.

Forecast cost escalation factors

4.45 We carried out our evaluation of Orion's proposed expenditure in 2013 real values. The resulting inputs were then adjusted by cost escalation factors. This means that that the BBAR for each year of the CPP period reflect nominal values for that year. The adjustments we made to cost escalation factors are set out in Attachment N.

Depreciation

4.46 In order to reduce the potential for price shocks to consumers, Orion proposed an alternative depreciation profile.[151] The practical effect of this was to shift the recovery of approximately $27 million of proposed charges to consumers out to regulatory periods after the end of the CPP period (ending in March 2019) and therefore to reduce the extent of the proposed increase in prices during the CPP period.

4.47 We accept there can be benefit to consumers from smoothing the effect of a price shock. When we reset the DPP for EDBs with effect from April 2013 we limited the starting price adjustments to CPI+10%. We considered price increases in excess of this would constitute a price shock to consumers.[152] We reduced the price shock in the DPP reset by restricting the initial price increase and allowing price increases in excess of CPI in subsequent years (ie, we set an alternative X-factor, a mechanism that we discuss later in this chapter).

4.48 Our decision on Orion's CPP results in an estimated starting price adjustment of CPI+8.4% for 2015. We have achieved an estimated starting price adjustment below 10% by allowing Orion to increase prices by CPI+1% in subsequent years. We do not consider it necessary to adopt Orion's alternative depreciation method to further reduce the initial price shock for consumers.

---

151 An alternative depreciation method to the straight line method can be considered in setting a CPP. *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.8.

152 Commerce Commission "Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), paragraph 6.3.

4.49 Accordingly, we have calculated the depreciation input for the BBAR amounts in each year of the CPP regulatory period by applying the standard depreciation method in the IMs.

Step five - calculate BBAR amounts for each year of the CPP

4.50 Once the forecast building block cost components for each year of the CPP regulatory period are determined, the components are added together to determine 'building blocks allowable revenue'. Building blocks allowable revenue is our estimate of the amount of revenue required by Orion to offset the costs of providing services to consumers and meeting assumed forecast demand.

4.51 For completeness, the IMs require that BBAR before tax and BBAR after tax are also calculated for those disclosure years in the 'assessment period,' which precedes the start of the CPP regulatory period. In Orion's case, the disclosure years in the assessment period are 2013 and 2014.

4.52 Our final decisions on the BBAR before tax and BBAR after tax for each of the years in the assessment period and CPP regulatory period are set out in Table 4.4.[153]

Table 4.4 – Building blocks allowable revenue (BBAR) for the assessment period and CPP regulatory period ($m)

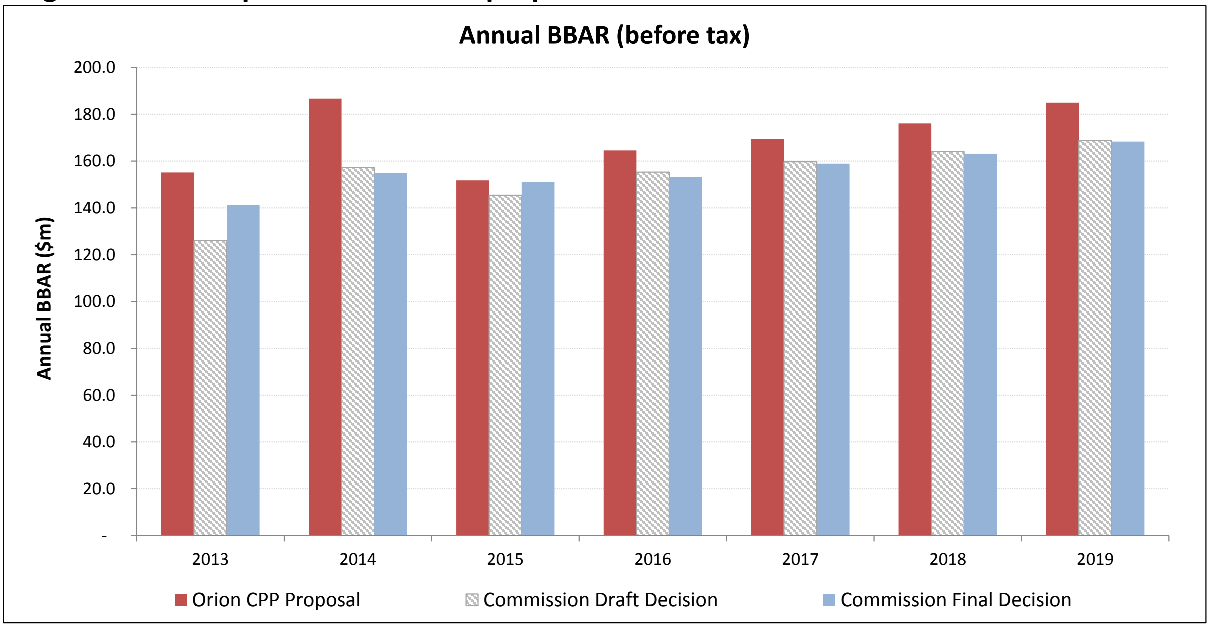
	2013	2014	2015	2016	2017	2018	2019
Building blocks allowable revenue before tax	141.2	155.0	151.1	153.3	158.9	163.2	168.3
Building blocks allowable revenue after tax	126.8	138.9	136.0	138.8	143.5	147.2	151.8

Note: nominal values.

4.53 Figure 4.2 compares Orion's forecast of the BBAR before tax for each year with the results of our calculations for our draft decision and our final decision.

[153] The BBAR before tax calculation formula is set out in *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.2(1). The calculations take into account the cash flow timing assumptions for expenditure, depreciation and revenues as specified in the IMs. The BBAR after tax is calculated in accordance with *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.3.

Figure 4.2 – Comparison of Orion's proposed BBAR with draft decision and final decision



Step six - convert BBAR to a present value

4.54 The IMs require the annual BBAR after tax amounts for the CPP period to be converted back to a present value BBAR after tax total as at 1 April 2014 by applying the CPP WACC of 6.92%.[154] This total is the first component of the price path calculations.

4.55 Table 4.5 sets out the total present value of the BBAR after tax at 1 April 2014 based on the above annual BBAR after tax numbers.

Table 4.5 – Conversion of BBAR after tax to present value ($m)

	1 April 2014 present value
Present value of BBAR for the CPP period	603.4

Step seven - apply claw-back if required

4.56 The second component of the price path calculation is claw-back. Orion proposed a total claw-back amount of $86m for the recovery of:

4.56.1 assets damaged or destroyed by the earthquakes;

154 The WACC was set at 6.92% for Orion's CPP period. *Cost of capital determination for electricity distribution businesses to apply to a customised price-quality path proposal* [2012] NZCC 25.

4.56.2 additional operating costs; and

4.56.3 lower revenues as a result of a reduction in energy demand.

4.57 As discussed in Attachment B, we have determined a lesser amount of total claw-back of $34.8m.[155] We set this lesser amount as under Part 4, we do not consider consumers should bear all of the costs and risks of a catastrophic event. We allow costs to ensure suppliers have incentives to invest after a catastrophic event, but as investors can diversify they are better placed to address the risk of demand reductions than consumers are.

4.58 If we apply claw-back we are required to smooth its impact over time to minimise price shocks.[156] In accordance with the IMs we have therefore included the claw-back amount in the MAR in the calculations performed in steps eight and nine. This has the effect of spreading the claw-back over the CPP period.[157]

Step eight – convert the annual claw-back amounts to a present value amount at 1 April 2014

4.59 The annual claw-back amounts were converted to a present value claw-back total as at 1 April 2014 by applying the DPP pre-tax cost of debt for the current period and assessment period of 7.93%.[158] Table 4.6 shows our decision on the total present value of claw-back at 1 April 2014.

Table 4.6 – Conversion of claw-back amounts to present value ($m)

	1 April 2014 present value
Present value of claw-back for the current period and the assessment period before tax	34.8

Step nine – combine BBAR and claw-back to calculate the MAR

4.60 The MAR for the CPP period must be determined such that the present value of the MAR after tax for each year of the CPP period equals the sum of the present value of

155 Present value as at 1 April 2014. See Table 4.6.

156 Commerce Act 1986, s 52D(3).

157 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 5.3.4(1) and (5).

158 This is a change from the approach taken in our draft decision. Our final decision is consistent with the approach to adjusting pass-through and recoverable costs for the time value of money specified in the draft Orion CPP decision and the calculation of the present value of claw-back amounts in the November 2012 DPP reset.

the BBAR after tax at 1 April 2014 and the present value of claw-back at 1 April 2014.[159]

4.61 Table 4.7 sets out our decision on MAR after tax for the CPP period.

Table 4.7 – Maximum allowable revenue after tax ($m)

	1 April 2014 present value
Present value of building blocks allowable revenue after tax (Table 4.5)	603.4
Present value of claw-back (Table 4.6)	34.8
Total of MAR after tax	638.3

Step ten – determine CPI and constant price revenue forecasts to calculate a price path

4.62 The CPP must specify maximum average prices and minimum quality standards. Both matters must be determined in a manner consistent with the Act.

4.63 Amongst other things, we are required to establish a 'baseline' for maximum average prices across the CPP period. The two components of this baseline are the:

4.63.1 'starting price' allowed at the start of the CPP period; and

4.63.2 'rate of change in price', relative to the CPI, that is allowed in later parts of the CPP period.

4.64 The IMs set out the calculation requirements for the setting of a MAR before and after tax in each and every year of the CPP regulatory period and the price path. The MAR for the first year of the CPP regulatory period (2015) determines the starting prices (P_0) to apply to Orion from 1 April 2014.[160]

4.65 The MAR before tax for the first year of the CPP period (2015) must be solved such that the MAR before tax for each subsequent year of the CPP period takes into account for each year:[161]

---

159 In Orion's case, the claw-back value used in this calculation is a pre-tax amount as in the absence of tax losses the regulatory tax allowance used to calculate the MAR before and after tax is invariant to the presence of claw-back. See Electricity Distribution Services Input Methodologies Determination 2012 [2012] NZCC 26, clause 5.3.4(9). A pre-tax claw-back amount achieves the correct economic outcome for Orion.

160 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.4.

161 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.4(6).

4.65.1 the forecast inflation rate (CPI);[162]

4.65.2 the X-factor; and

4.65.3 the forecast weighted average growth in quantities from the preceding year to the current year.[163]

4.66 MAR after tax is calculated using the forecast tax allowance (Table 4.4) and MAR before tax (Table 4.9).

The inflation rate (CPI)

4.67 For the purposes of determining the CPP, we have applied the CPI formula in the IMs. In our draft decision, we identified that this is inconsistent with the compliance formula that uses a lagged CPI formula. However, for the purposes of our final decision we have not pursued a variation to the relevant IMs to resolve this inconsistency. We have set out our approach to IM variations for Orion's CPP in the regulatory framework attachment (Attachment A).[164]

Forecast weighted average growth in quantities

4.68 We use the same forecast weighted average growth in quantities for each year of the CPP period that Orion proposed. Our reasons for doing so are discussed in Attachment O.

Step eleven – determine the X-factor

4.69 The rate of change in prices impacts the value of the starting prices (P_0, or 2015 MAR before tax) and the slope of the price path over the CPP period. Orion proposed an alternative rate of change. Specifically, it proposed prices change by 1.19% per annum above the CPI over the CPP period to mitigate potential price shock effects to consumers in the CPP period.[165]

4.70 Our initial estimate of the initial price increase was CPI+10.5% (excluding the effects of transferring Transpower's spur assets to Orion). This exceeds the CPI+10% threshold that we used in the DPP reset as a guide to identifying a price shock to consumers.[166] As such, we considered that an initial price increase of this magnitude

---

162 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 3.3.1(5).

163 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 5.3.4(6) and 5.3.4(7).

164 See paragraph A123 to A127.

165 Formally, Orion proposed an X-factor of -1.19% which when introduced into the CPI-X formula results in prices increasing by CPI+1.19% each year.

166 Commerce Commission "Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), Table X1.

is such that we should seek to smooth it over time by using a non-zero X-factor. Accordingly, we concluded that the X-factor that would be allowed in addition to CPI for Orion's CPP should be 1.0%.

4.71 Our decision for the annual change in prices for the CPP period is set out in Table 4.8.

Step twelve - smoothing of total MAR

4.72 The total MAR over the CPP period is smoothed to determine a MAR before and after tax in each and every year of the CPP regulatory period and the price path which determines the starting prices (P_0) to apply to Orion from 1 April 2014.

4.73 Our decision on the starting price for 2015 (P_0), or 2015 MAR before tax, for the CPP period is set out in Table 4.8.

Table 4.8 – Annual change in prices and P_0 for the CPP period

	Application of the total MAR before tax to the CPP period
P_o (2015 maximum allowable revenue before tax, $m)	154.8
Annual change in prices	CPI+1%

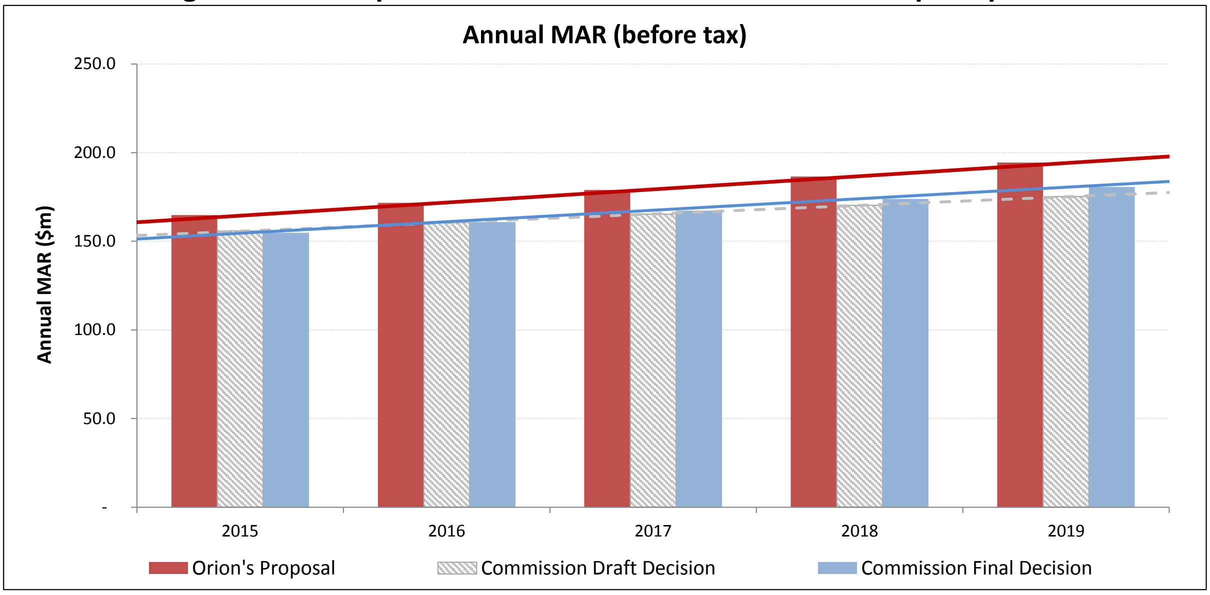
4.74 Table 4.9 sets out the resulting annual MAR before tax amounts, relative to that in our draft decision and Orion's proposal.

Table 4.9 - Maximum allowable revenue before tax ($m)

	2015	2016	2017	2018	2019
Orion's Proposal	164.8	171.7	178.9	186.6	194.4
Draft Decision	155.8	160.4	165.2	170.2	175.2
Final Decision	154.8	160.9	167.2	173.9	180.7

4.75 Figure 4.3 compares Orion's proposed annual MAR before tax amounts with the MAR before tax amounts that we calculated for our draft decision and our final decision.

Figure 4.3 - Comparison of annual MAR before tax in the price path



4.76 The IMs also require the MAR after tax to be determined for each and every year of the CPP regulatory period. We have determined MAR after tax by subtracting the forecast regulatory tax allowance from the MAR before tax.

4.77 Figure 4.4 compares the total nominal value of maximum revenue before tax proposed by Orion for the CPP period with that which results from our final decision. It shows the total nominal revenue effect of the adjustments we have made to Orion's CPP proposal:

4.77.1 removal of the price shock mitigation mechanisms proposed by Orion (alternative X-factor and alternative depreciation);

4.77.2 correction of identified errors contained in our draft decision;

4.77.3 adjustments resulting from implementing our decisions on opex and capex allowances;

4.77.4 removal of relevant forecast RAB and tax values for spur assets to be transferred from Transpower to Orion;[167]

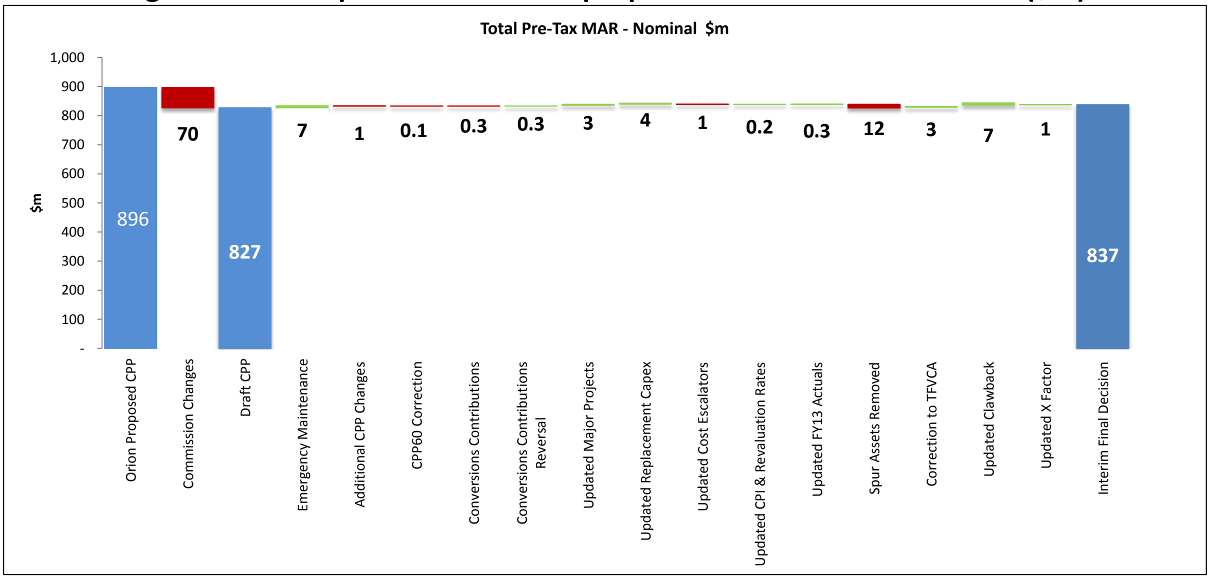
[167] The effect of excluding these assets is shown because the transfer of assets from Transpower does not result in a net increase in prices in relation to the CPP price path we have determined, but rather in a change in how the relevant costs are recovered (ie, as 'recoverable costs'). Note that estimated starting price increases in Orion's proposal and in our draft decision include the effect of these asset transfers on the price path, and therefore can be seen as overstating the price increase from the price path.

4.77.5 updates to latest actual CPI inflation rates and forecasts, cost escalators and 2013 financial results for Orion, together with the effect of all other decisions made on financial modelling inputs; and

4.77.6 implementation of our price smoothing.

4.78 The effect of our final decision is to reduce the total forecast revenues by $59 million from those proposed by Orion in its CPP application for the regulatory period. Orion proposed to recover a further $71 million in the following regulatory period.

Figure 4.4 - Comparison of Orion's proposed MAR with our decision ($m)



4.79 If Orion priced to recover its maximum allowable revenues from consumers, Orion's CPP proposal was estimated to have resulted in an average CPI+15.0% increase in prices for consumers from 1 April 2014. There would also have been an average CPI + 1.2% increase in each later year of the CPP period.[168] Further recovery of claw-back amounts and depreciation was proposed for the following regulatory period.

4.80 Our decision on the price path will result in a maximum average price increase of CPI+8.4% for consumers from 1 April 2014. Our decision also permits maximum average price increases in line with CPI+1% for each later year of the CPP period.[169]

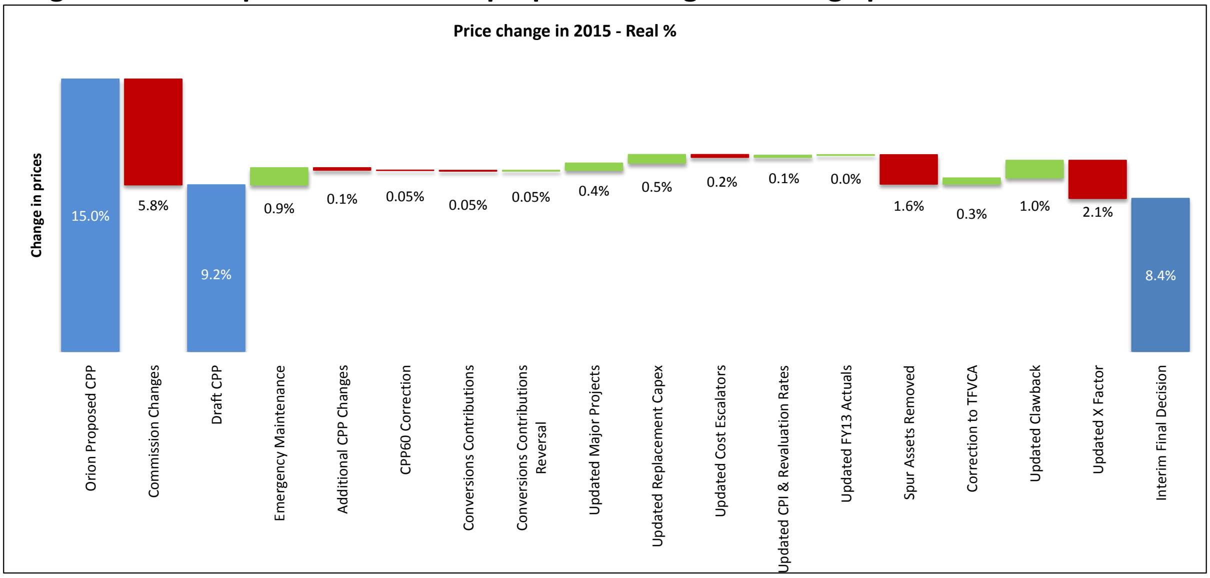
4.81 Figure 4.5 sets out how the adjustments we have made in our CPP decision have impacted Orion's proposed average price increases. These have been calculated

168 These are averages and, depending on the Orion tariffs that apply to each consumer, the actual percentage changes for individual consumers could vary from these averages.

169 Again, these are averages and for individual consumers the actual percentage changes could vary.

using real dollars (that is, excluding the impact of CPI). Actual permitted prices can rise by the CPI as well.[170]

Figure 4.5 - Comparison of Orion's proposed change in average prices with our decision



Pass-through and recoverable costs for the CPP period

4.82 The categories of pass-through and recoverable costs that Orion may recover in its prices (and that are not included in the BBARs, MARs or the setting of the price path) are defined in the IMs. Although these amounts increase the amounts payable by consumers, they are not reflected in our estimated change in starting prices.

4.83 The Commission is required to specifically determine the following amounts in the CPP determination:

4.83.1 the fee payable to the verifier for Orion's CPP proposal;[171]

4.83.2 the auditor's costs for Orion's CPP proposal;[172] and

4.83.3 the independent engineer's fees for Orion's CPP proposal.[173]

---

170 The maximum revenue expected by Orion and the average rate of change in allowed price described in this paper are based on our financial model. Attachment P provides an overview of this model.

171 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 3.1.3(1)(j) and 3.1.3(3).

172 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 3.1.3(1)(k) and 3.1.3(3).

173 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 3.1.3(1)(l), 5.4.5(c), 5.4.12(4)(c) and 3.1.3(3).

4.84 The fees payable to us by Orion for assessing the CPP proposal are also treated as recoverable costs under the IMs.[174]

Financial model that demonstrates our price-quality path decision

4.85 We have published our financial model that implements our decision on Orion's CPP together with this reasons paper.[175]

Step thirteen – confirm the quality standards to apply

4.86 Orion has proposed variations to the SAIDI and SAIFI limits that apply under its DPP determination.[176] These variations are referred to in the input methodologies as quality standard variations.[177] The reliability limits proposed by Orion, expressed as SAIDI and SAIFI limits for each year in the CPP period are shown in Table 4.10.

4.87 Due to the impact of the earthquakes and based on its consultation with consumers, Orion proposed that it could not stay within its current reliability limits. The proposed quality standard variations initially relax the SAIDI and SAIFI limits, with improvements over the CPP period.[178] Our decision accepts that Orion's proposed reliability limits are reasonable given Orion's particular circumstances.

4.88 Consistent with the expenditure objective, we sought to understand whether the expenditure proposed by Orion was necessary to meet the demand for its service while delivering reliability within the proposed limits. Our view is that Orion's proposed quality standard variations can be achieved for less expenditure than Orion proposed.

4.89 Attachment L discusses our reasons for the reliability limits that Orion will be required to meet during the CPP in more detail. In particular, we disagree with submissions on our draft decision that indicated that the reduced expenditure allowances meant that Orion's reliability limits should be relaxed (ie, that lower expenditure allowances should translate into lower required levels of reliability). Instead, we consider that our decision makes the necessary trade-off between expenditure and reliability that Orion's proposal did not do.

---

174 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clauses 3.1.3(1)(h)-(i).

175 Please visit http://www.comcom.govt.nz/regulated-industries/electricity/cpp/orion-cpp.

176 *Electricity Distribution Services Default Price-Quality Path Determination 2010* (Commerce Commission Decision 685, 30 November 2009), clauses 9.1-9.2 and Schedule 3.

177 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.4.5.

178 A relaxation of reliability limits means that they are increased (ie, reliability may be worse without exceeding the limits). An improvement means that reliability limits are decreased (ie, reliability is expected to be better).

Table 4.10 - Quality standard variations proposed by Orion for the CPP period (minutes)

Quality standards	2015	2016	2017	2018	2019
SAIDI limit	103.8	94.7	91.0	82.4	73.4
SAIFI limit	1.36	1.21	1.16	1.02	0.87

4.90 As discussed earlier in this chapter, we have accepted that Orion's proposed variations to its quality standards for the CPP period are reasonable. The earthquakes have impacted Orion's ability to continue to achieve the historic levels of SAIDI and SAIFI reliability. However, we consider that Orion's proposed expenditure and the resultant MAR was not necessary to meet the demand for its service while meeting the proposed quality standards.[179]

4.91 Table 4.11 confirms that our final decision accepts Orion's proposed quality standards for the same period.

Table 4.11 – Confirmed quality standards to apply to Orion for the CPP period (minutes)

Quality standards	2015	2016	2017	2018	2019
SAIDI limit	103.8	94.7	91.0	82.4	73.4
SAIFI limit	1.36	1.21	1.16	1.02	0.87

[179] Our evaluation of the proposed quality standards is discussed in more detail in Attachment L.

Attachment A: The regulatory framework under which we have determined Orion's customised price-quality path

Purpose of this attachment

A1 This attachment sets out the regulatory framework under which we have evaluated Orion's CPP proposal and determined Orion's draft customised price-quality path.

A2 In this attachment we address:

A2.1 the purpose of Part 4 of the Act;

A2.2 the role of default/customised price-quality regulation under Part 4 of the Act;

A2.3 how we exercise our discretion when determining a customised price-quality path;

A2.4 how we assess a customised price-quality path proposal;

A2.5 how we determine the customised price path;

A2.6 how we decide whether to apply claw-back, and if so, how much; and

A2.7 IM variations agreed with Orion.

The purpose of Part 4 of the Act

A3 Section 52A of the Commerce Act 1986 ('Act') states that the purpose of Part 4 is:

> to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services—
>
> (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
>
> (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
>
> (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and
>
> (d) are limited in their ability to extract excessive profits.

A4 The central purpose of Part 4 of the Act is to promote the long-term benefit of consumers in markets where there is little or no competition and little or no likelihood of a substantial increase in competition.[180] EDBs, including Orion, are subject to price-quality regulation under Part 4 of the Act because they face little or no competition. [181]

A5 'Competition', in the context of Part 4 of the Act, means 'workable or effective competition'.[182]

A6 Section 52(A)(1) requires the Commission to promote the long-term benefit of consumers by promoting outcomes that are consistent with outcomes produced in workably competitive markets, such that suppliers of goods or services act, or have incentives to act, in accordance with the objectives listed in (a) to (d).

A7 Our view is that the objectives in paragraphs (a) to (d) are integral to promoting the long-term benefit of consumers, and reflect key areas of supplier performance that characterise workable competition. None of the objectives are paramount, and further, the objectives are not separate and distinct from each other, or from s 52A(1) as a whole.

A8 Determination of a customised price-quality path for regulated suppliers following a catastrophic event involves the exercise of regulatory judgement in setting an appropriate price-quality path that, as a whole and in conjunction with the other

---

180 Commerce Act 1986, s 52A(1).
181 Commerce Act 1986, s 54E.
182 Commerce Act 1986, s 3(1).

aspects of the regulatory regime, will provide incentives for suppliers to act in a manner consistent with the Part 4 purpose.[183]

The focus is on the long-term benefit of consumers

A9 The primary purpose of Part 4 is to promote the long-term benefit of consumers. This can be seen as the touchstone for the CPP determination. It does not mean, however, that the interest of consumers today are irrelevant, particularly in light of what Parliament tells us will promote consumers interests in the long term – for instance, providing services at a quality consumers demand. Some suppliers argue that we have focused on the short term interests at the expense of the long term.[184] This is not correct.

A10 What we have done is to determine the CPP that will promote the long-term benefit of Orion's consumers. We have done this by determining a CPP that promotes outcomes such that the objectives set out in s 52A(1)(a) - (d) of the Commerce Act occur. We appreciate that consumers of today may be focused on their immediate concerns, particularly after a catastrophic event. We have balanced those concerns with the need to focus on the long-term benefit of consumers.

A11 This is illustrated in our assessment of proposed expenditure on major capex projects. For instance, the expenditure objective against which we must evaluate Orion's proposed expenditure requires that Orion's proposed expenditure reflects the efficient costs that a prudent supplier would require to provide services at the appropriate standards and in compliance with applicable regulatory obligations. How we have done this is discussed in detail in Chapter 2. However, in short, we have looked at the cost of delivering investment at the right time and level of output to meet consumers' needs now and in the long term.

The role of default/customised price-quality regulation under Part 4 of the Act

A12 In order to meet the purpose of Part 4, price-quality regulation seeks to mimic some of the influences in workably competitive markets, to promote outcomes consistent with outcomes in such markets. Competitive rivalry can usually be relied on to provide suppliers with incentives to innovate, invest, and improve efficiency, while constraining excessive profits, through competitive pressure on suppliers' prices. The objectives of price-quality regulation set out under the four limbs of the Part 4

---

183 For a more extensive discussion of the Commission's approach to the purpose of Part 4 see the Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraphs 2.4.1-2.6.33.

184 For instance, Chapman Tripp "Commerce Commission's draft determination of Orion's customised price-quality path (CPP)", in Orion *Orion CPP Proposal: Draft Decision* (19 September 2013), Attachment A, pp.8-9..

purpose statement are intended to provide similar constraints in markets where competition is otherwise limited.

A13 Our price-quality paths determine:

A13.1 the maximum average prices which EDBs can charge; and

A13.2 the minimum quality standards that EDBs must meet.

A14 By setting maximum prices and minimum quality standards, profit-maximising suppliers have incentives to out-perform the assumptions explicitly or implicitly underpinning how the price-quality path was set. As price-quality paths are set in advance for a specific period based on an estimated normal rate of return, EDBs have the opportunity to earn a higher than expected rate of return by being more efficient and innovating. This is the nature of incentive regulation.[185] If suppliers are successful in achieving efficiencies or innovating, their expenditure may be less than the path assumes, and the reward greater returns to their shareholders. The quality standards in the price-quality path are present to ensure that innovation and efficiency do not come at the expense of the service quality expected by consumers.

A15 Price-quality regulation under Part 4 is implemented through:

A15.1 default price-quality paths, which apply to all 17 non-exempt EDBs; and

A15.2 customised price-quality paths, which provide an alternative to a default price-quality path, where an individual EDB wishes to have its specific circumstances addressed.

The purpose of default/customised price-quality regulation

A16 Section 53K of the Act sets out the purpose of default/customised price-quality regulation:

> The purpose of default/customised price-quality regulation is to provide a relatively low-cost way of setting price-quality paths for suppliers of regulated goods or services, while allowing the opportunity for individual regulated suppliers to have alternative price-quality paths that better meet their particular circumstances.

A17 To meet the purpose of price-quality regulation, any approach to a default price-quality path must be relatively low cost. A significant contributor to the costs of setting customised price-quality paths are supplier-specific audit, verification and approval processes. Default price-quality paths set since input methodologies were

---

185 Commerce Commission “Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper” (22 December 2010), paragraphs 1.2.1-1.2.3.

determined instead take a combination of low-cost techniques, including existing information disclosed under requirements set for all suppliers, the supplier's own forecasts, and independent forecasts.[186]

A18 Although the approach we take to a default price-quality path is relatively low cost, we set the price path on the expectation that EDBs will earn at least a normal return, based on the information used in setting the path. A customised price-quality path is available where a supplier does not expect to earn a normal return due to their particular circumstances.

A19 Because in a default price-quality path we may rely on some information that is different to EDBs' own forecasts, some EDBs may nonetheless expect to earn less than a normal return under the default price-quality path due to their particular circumstances. Given that it would be costly to take into account all supplier-specific information when setting a default price-quality path, the option of a customised price-quality path provides an alternative for an EDB to have all of its relevant forecast information taken into account after testing through audit, verification and evaluation processes.

A20 The availability of a customised price-quality path is a fundamental feature of default/customised price-quality regulation as it ensures EDBs can have alternative price-quality paths that better meet their particular circumstances relative to the default price-quality path.

A21 The customised price-quality path is not, however, intended to be a 'one way bet.' It does not simply allow a supplier to add an extra increment on top of its default price-quality path. Part 4 of the Act explicitly provides that customised price-quality paths can be set lower than default price-quality paths.[187] This has important incentive qualities, as otherwise it may be worth applying for a CPP purely because it raises the possibility of increasing average price caps.

A22 Regardless of its relativity to the existing default path, the customised price-quality path seeks to achieve the right balance for the supplier against the purpose of Part 4 of the Act, including the s 52A(1)(a)-(d) objectives, based on a detailed assessment of supplier-specific information.

186 Orion's DPP is currently a carry-over from the previous thresholds regime. See Schedule 1 of the *Electricity Distribution Services Default Price-Quality Path Determination 2010* (Commerce Commission Decision 685, 30 November 2009).

187 Commerce Act 1986, s 53V(2)(a).

Customised price-quality paths are not designed to ensure certainty of return for suppliers

A23 Customised price-quality paths provide a mechanism for addressing supplier-specific circumstances that are not accommodated in the price-quality path we set under the default price-quality path.

A24 They also provide suppliers with certainty in a similar way as a DPP – for instance, they know beforehand what their starting prices and rate of change will be for the next regulatory period and can plan their business affairs accordingly. However, we do not think the legislature's intention was for the availability of a customised price-quality path to provide the level of certainty that some EDBs appear to be arguing for.

A25 Submissions from EDBs have emphasised the need for certainty to encourage investment incentives.[188] Although the purpose of Part 4 of the Act emphasises incentives for suppliers to undertake long term investment in infrastructure (by virtue of the inclusion of limb (a) of the section 52A(1) purpose statement), the reference to "...promoting outcomes produced in competitive markets" assists in placing the concept of certainty in its proper context.

A26 As noted by the Court of Appeal in *Vector v Commerce Commission*:[189]

> Participants in competitive markets generally face conditions of considerable uncertainty; that is the nature of competition. In the present context, while Parliament undoubtedly saw certainty as being important, particularly in terms of encouraging investment, it was not identified as the predominant consideration.

A27 We also note the Court's observations that the language in section 52R of the Act (which describes the purpose of IMs as to promote certainty in relation to the rules, requirements and processes applying to the regulation of services) suggests that certainty is a relative rather than absolute value, which may take time to achieve as

---

188 Electricity Networks Association "Submission on Yarrow Report in Relation to Orion's CPP Application" (26 June 2013), p.2; Orion New Zealand Limited "Submission on the Orion CPP issues paper" (24 May 2013), pp.4-5; Vector Limited "Submission to the Commerce Commission on Orion CPP Issues Paper" (24 May 2013), pp.8 and 11. This argument is advanced for instance at Vector Limited, "Release of expert reports for public consultation" (27 June 2013), p.2 (emphasis added): "The Commission needs to recognise that by signalling through consultation that it is open to considering options that would preclude regulated suppliers being properly compensated for the risks of operating a network, and/or adopting an approach that is inconsistent with its own IMs (in a manner detrimental to Orion) *it could undermine certainty, heighten risks to regulated suppliers of applying for a CPP (be it perceived risk or actual risk) and reduce confidence about the ability of regulated suppliers to recover their (efficient) costs*"; Orion New Zealand Limited "Orion CPP Proposal: Commerce Commission's Expert Reports" (27 June 2013), pp.2-3.

189 *Commerce Commission v Vector* [2012] NZCA 220, paragraph 34.

the regime beds in.[190] Indeed, the explanatory note (cited with approval by the Court of Appeal) said that the regime would "...provide an effective regime that *over time* produces more timeliness, certainty and incentives for investment."[191]

Default/customised price-quality regulation is designed to ensure that suppliers can expect to earn a normal return

A28 Our approach to price-quality regulation allows a supplier to earn a normal return but does not guarantee it:

A28.1 suppliers can potentially earn higher or lower than normal returns over a period when the average prices are pre-specified; and

A28.2 there are significant incentives for suppliers to keep costs down in order to improve profitability.

A29 The price path is set to recover efficiently incurred costs at the time it is set. While there is no provision for wash ups (ie, to adjust prices for actual results) as a result of what transpires over the regulatory period, a supplier's circumstances, including its current and projected profitability, are factored in at the time of the next reset.[192]

A30 We note that our approach is consistent with workably competitive markets in the broader sense, where:

A30.1 there is no guarantee that all costs incurred will be passed through to consumers; and

A30.2 suppliers may bear the risk of an increase in costs, while the consumer price remains unaffected in the short term, but not the long term.

A31 Christchurch City Holdings, Orion's major shareholder, argued in its submission on our draft decision that:

> Apart from significant uncertainty it creates over cost recovery, [Christchurch City Holdings] is very concerned that the Draft Decision does not recognise the right of shareholders to a reasonable rate of return on investment. [193]

190 *Commerce Commission v Vector* [2012] NZCA 220, paragraph 34.

191 Explanatory Note to the Commerce Amendment Bill, paragraph 24 [emphasis added], cited with approval by the Court of Appeal in *Commerce Commission v Vector*, [2012] NZCA 220, paragraph 34.

192 A price path cannot guarantee a normal return even if a supplier is efficient over the control period.

193 Christchurch City Holdings "Submission by Christchurch City Holdings Limited to Commerce Commission in response to draft customised price path decision for Orion" (19 September 2013), p.4.

A32 As MEUG has pointed out in its cross-submission, in a workably competitive market there is no "right" to a reasonable rate of return.[194] No investor has this level of assurance with respect to an individual business.

A33 Our approach to default/customised price-quality regulation aligns with Professor Yarrow:[195]

> [E]xpected *ex ante* efficiently incurred costs, including ex ante costs of risk borne by suppliers, should fall on consumers, but deviations of cost out-turns from expectations should fall chiefly on suppliers, unless explicitly specified otherwise. Chiefly does not mean exclusively, but it does imply that after-the-event adjustments in cost allocations should be kept to a minimum, to minimise the requirement for *ex post* regulatory assessments of business performance.

A34 A number of submissions made in response to Professor Yarrow appear to imply that suppliers are effectively guaranteed recovery of their costs incurred in a catastrophic event, so as to ensure that they earn a normal return.[196] Professor Yarrow disagrees with this approach:[197]

> To identify and explicitly provide an allowance for each and every possible cost element would not be administratively efficient, and price cap regulation of the type favoured in New Zealand has explicitly sought to avoid over-intrusive and disproportionate regulation. No price or revenue cap system with which I am familiar seeks to identify every possible cost component, and it is integral to these systems that individual revenue allowance are not hypothecated. The key question for regulators is whether the price/revenue settlement as a whole will provide a reasonably efficient operator with the funds to cover the aggregate costs that it is expected (*ex ante*) that the business will incur in meeting its obligations.

A35 We agree with Professor Yarrow. A price-quality path needs to be appropriate to allow an EDB an expectation of recovering efficient costs going forward, including the return on and of capital. Accordingly, we set appropriate starting prices based on projected profitability. We do not consider every cost individually, or review

---

194 Major Energy Users Group "Orion CPP - Draft Determination - Cross-submission, (11 October 2013), p.4.

195 Professor George Yarrow, “Further advice on claw-back” (4 August 2013), p.3.

196 See Orion New Zealand Limited “Submission on the Orion CPP issues paper” (24 May 2013) , Appendix 1 (PWC report), p.2: “consistent with the treatment of costs in general, the efficient and prudent costs caused by catastrophic events should be recovered from customers.” Orion New Zealand Limited “Submission on the Orion CPP issues paper” (24 May 2013), Appendix 1 (PWC Report), p.3: “For the avoidance of doubt, the full cost caused by the catastrophic event should be recovered from customers.” Incenta Economic Consulting “Response to Professor Yarrow Advice on Orion CPP Determination Orion New Zealand Limited”, in *Orion CPP Proposal: Commerce Commission’s Expert Reports* (27 June 2013), Attachment A, p. 2: “The question is not whether, but how or when customers bear [the costs of a catastrophic event].”

197 Professor George Yarrow “Further advice on claw-back” (4 August 2013), pp.8-9.

actual expenditure for efficiency, in deciding the costs that EDBs should recover. That said, an EDB's *expectation* of a normal return is by no means a *guarantee*.

We must exercise our judgement when determining a customised price-quality path

A36 The Act provides clear guidance that we must determine the customised price-quality path that we consider appropriate for a supplier that has proposed a CPP.[198] The Act expressly acknowledges that the path may be lower and less favourable to the supplier.[199] In exercising our judgement on an appropriate path, we must apply the relevant IMs and act consistently with the purpose of Part 4 of the Act.

A37 In *Vector v Commerce Commission* the Supreme Court recognised that our judgement is an essential element of default/customised price-quality regulation under Part 4 of the Act:[200]

> The availability of a full merits appeal on customised price-quality paths as compared to the appeal confined to points of law in relation to default price-quality paths implies a legislative recognition that the fixing of price-quality paths will involve regulatory judgements and not just the largely mechanical application of published methodologies. Put another way, it is clear that the legislature did not require published methodologies to cover all the issues which the Commission might have to address in reaching a regulatory decision.

A38 We exercise our judgement, including in deciding whether to allow claw-back and if so how much, in the context of the following:

A38.1 the scheme of Part 4 of the Act;

A38.2 our previous statements and decisions about the allocation of risk in relation to catastrophic events;

A38.3 whether our prior conduct meant that Orion could reasonably expect to:

A38.3.1 recover all of their prudent and efficient costs;

A38.3.2 deliver all of their planned operational and capital activities; and

A38.3.3 be made whole for all foregone revenues;

A38.4 the impact of legal, moral and humanitarian obligations that suppliers have to restore and maintain the supply of essential services, such as electricity.

---

198 Commerce Act 1986, s 53V(1).
199 Commerce Act 1986, s 53V(2)(a).
200 *Vector Limited v Commerce Commission* [2012] NZSC 99 at [74].

Scheme of Part 4 of the Act: what incentive regulation is meant to achieve

A39 Incentive regulation aims to promote the outcomes in the Part 4 purpose statement, including:

A39.1 providing certainty to suppliers about acceptable price/revenue levels over the regulatory period, which promotes incentives for investment;

A39.2 promoting efficient expenditure so that suppliers do not, amongst other things, over-invest;

A39.3 promoting incentives for innovation or efficiency gains to be made to increase profitability of the supplier (by outperforming the path);

A39.4 allowing suppliers to keep benefits of efficiency gains until at least the end of each regulatory period;[201]

A39.5 sharing the benefits of efficiency gains with consumers; and

A39.6 setting quality standards.

A40 Guaranteeing full cost recovery for past and planned expenditure is not consistent with incentive based regulation.

A41 Some submitters appear to imply that our starting point in the context of forecast expenditure should be to simply accept that an EDB's costs are efficient and prudent in the absence of information to the contrary.[202] To the extent this implies that we would not test a supplier's information, we disagree. A prudency and efficiency review of an EDB's proposed expenditure is an important part of our role in assessing a customised price-quality path proposal. Starting with the assumption an EDB's costs are efficient and prudent would, amongst other things, provide undesirable incentives for the provision of information, where the EDB possesses the most useful information.[203]

We make a preliminary assessment of the proposal

A42 Once a CPP proposal is received, the Act sets out a process that must be followed, including the maximum time allowed for each stage of the process.[204] The first stage

---

201 We note that an IRIS is intended to allow suppliers to retain the benefits for a full five years no matter when the efficiencies occur within the regulatory period.

202 See for instance Vector Limited "Submission to the Commerce Commission on Orion CPP Issues Paper" (24 May 2013), pp.8 and 21.

203 We note that the IMs for CPPs, which include evaluation criteria that require us to assess whether what is proposed is fit for purpose, whether assumptions are reasonable, etc, were not appealed.

204 Commerce Act 1986, ss 53S, 53T and 53U.

of the process is to make a preliminary assessment as to whether the proposal complies with the process and content for CPP proposals. This assessment is made against the process and content requirements set out in the CPP IMs. It is not an assessment of the merits of the CPP that is proposed. (Some submitters imply that we should simply 'rubber-stamp' the proposal once we have completed this preliminary assessment.[205])

A43 Once the preliminary assessment stage is complete, we move on to assessing, or in other words evaluating, the proposal and determining the appropriate CPP. The remainder of this attachment is focused on how we have approached this second stage.

We evaluate a CPP proposal against specific criteria

A44 We evaluate a supplier's customised price-quality path proposal against specific evaluation criteria set out in clause 5.2.1 of the IMs.

A45 Where Orion's proposal did not meet the evaluation criteria, we necessarily had to make our own assessments. These assessments were consistent with the evaluation criteria, where applicable.

A46 This evaluation included whether the proposed amount of claw-back met the purpose of Part 4. (Claw-back is discussed later in this attachment and in detail in Attachment B.)

A 'prudent' supplier would consider options

A47 The expenditure objective against which we must evaluate Orion's proposed expenditure requires that Orion's proposed expenditure reflects the efficient costs that a prudent supplier would require to provide services at the appropriate standards and in compliance with applicable regulatory obligations. To ensure that expenditure is prudent, normal business practice would generally expect that a supplier would consider options and priorities for that expenditure.

A48 Consideration of options or alternatives, including whether to defer some expenditure where appropriate, is also consistent with a number of requirements in the IMs. The expectation that a supplier should demonstrate how it had arrived at its final proposed expenditure, including how and why it chose certain projects over others it made, is in a number of IMs, as discussed in Chapter 2.

A49 There is nothing in the Act or IMs that prevents us from:

---

205 For instance, Vector Limited "Submission of the Commerce Commission on Orion CPP draft decision" 20 September 2013, p.24.

A49.1 making our own assessment;

A49.2 asking (or actively seeking) consumers for their views; or

A49.3 asking EDBs for alternative options, and considering those options.

A50 Asking an EDB for options does not suggest we will undertake a full counterfactual analysis. Instead, it acknowledges that our decision is not an absolute judgement as might apply in a more restrictive propose/respond framework.[206] In the absence of an absolute standard against which to assess a proposal the regime requires us to consider the merits of a proposal and make a judgement, which cannot and should not be done in a vacuum. Considering an EDB's proposal relative to the options they were faced with assists us in making that judgement. Given information asymmetries, information about the trade-offs behind a CPP proposal better allows us to evaluate whether the customised price-quality path proposal meets the evaluation criteria and expenditure objectives, and helps us to engage with customers.

A51 Our role is not to dictate to Orion or a supplier what are optimal investments, but to ensure that the expenditure proposed is justified for the quality consumers demand. Information about the options explored is necessary to assess whether the EDB has properly balanced these trade-offs in its proposal, and only goes to a determination of the appropriate revenue allowance. Ultimately, the EDB is free to undertake the optimal investments as it sees fit.

We determine the CPP

A52 Our task under the Act is to determine the price-quality path that we consider is appropriate for Orion. We determine that CPP in light of the results of the assessment of Orion's proposal. The key elements of that price-quality path are:

A52.1 the maximum price that Orion can charge on average during the regulatory period (how this is set is discussed in Chapter 4);

A52.2 the quality standards (ie, reliability limits) that Orion will be required to meet during the regulatory period (these are discussed later in this attachment and in detail in Attachment L); and

A52.3 the length of the regulatory period (discussed below and in Chapter 4).

[206] Where a proposal can only be accepted or rejected, without refinement of the proposal in any way.

We determine expenditure

A53 Forecasts of capex and opex are key inputs to the building blocks allowable revenue (BBAR) calculated for each disclosure year for our determination of a customised price-quality path.[207]

A54 We have broad discretion in determining amounts for forecast capex and opex.[208]

CPP evaluation criteria

A55 We are required by the EDB IMs to consider whether Orion's proposed expenditure complies with the evaluation criteria for assessment of the CPP proposal.[209] Accordingly, we:

A55.1 evaluated whether data, analysis and assumptions in Orion's CPP proposal are fit for purpose for each segment of expenditure we assessed;

A55.2 considered whether Orion's proposed expenditure meets the expenditure objective (see below);

A55.3 analysed the extent to which quality standard variations proposed by Orion are consistent with the expenditure it has proposed and therefore whether they better reflect the realistically achievable performance and/or investment provided for in the MAR; and

A55.4 evaluated the extent to which Orion has undertaken consumer consultation and the reliability of Orion's interpretations of the outcomes of this consultation from the perspective of identifying the service levels it is seeking to achieve through its proposed expenditure.

A56 Some submitters argue that we have also assessed Orion's proposal against 'new' criteria - eg, alternatives/options, the value of deferring projects and consumer consultation on price-quality trade-offs.[210] This is not the case. What we have done is sought relevant evidence that the criteria specified in the IMs have been met. For instance, information about options and price/quality trade-offs is useful in assessing whether the expenditure objective is met. Understanding the supplier's consumer consultation assists us in considering what weight to give to it, particularly if the supplier claims we should be relying on it. We also do not consider that the criteria

---

207 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.2.

208 Forecast capital expenditure is determined under clause 5.3.11(5)(b) by assessing the CPP applicant's capex forecast against the expenditure objective. Forecast operating expenditure is determined under clause 5.3.2(6)(b) by assessing the CPP applicant's opex forecast against the expenditure objective.

209 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1.

210 For instance, Chapman Tripp "Commerce Commission's draft determination of Orion's customised price-quality path (CPP)", in Orion *Orion CPP Proposal: Draft Decision* (19 September 2013), Attachment A.

preclude us from obtaining further information necessary for our assessment to determine an appropriate CPP, particularly if doing so assists in understanding matters that are clearly relevant to promoting the purpose of Part 4.

The expenditure objective

A57 In deciding the appropriate levels of expenditure for Orion's CPP, we have been informed by our assessment of its proposed expenditure against the expenditure objective:[211]

> expenditure objective means objective that capital expenditure and operating expenditure reflect the efficient costs that a prudent non-exempt EDB would require to-
>
> (a) meet or manage the expected demand for electricity distribution services, at appropriate service standards, during the CPP regulatory period and over the longer term; and
>
> (b) comply with applicable regulatory obligations associated with those services

A58 In order to evaluate whether Orion's proposed expenditure meets the expenditure objective, we looked for:

A58.1 evidence of the service levels that are required by Orion's customers;

A58.2 service levels that Orion is proposing to deliver as a result of expenditure proposed to be undertaken;

A58.3 any differences between the desired and proposed service levels;

A58.4 forecasts of expected demand for services over the period and in particular expected growth in demand;

A58.5 the extent to which Orion has evaluated options for delivering services to its customers, and whether its chosen alternative can be said to represent the lowest lifetime cost alternative for doing so; and

A58.6 whether expenditure proposed by Orion is required to deliver the services it is seeking to deliver.

A59 Where we reviewed the information provided and concluded that the proposed expenditure was not justified under the expenditure objective, we considered the following options were available to us in determining the appropriate CPP:

A59.1 using Orion's historical levels of expenditure;

[211] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 1.1.4.

A59.2 using a step and trend approach similar to that used for expenditure forecasts in the DPP; or

A59.3 undertaking a more detailed analysis of the expenditure and determine an amount most consistent with the expenditure objective based on the information available.

We determine quality standards

A60 We assess the specific circumstances of an EDB and decide whether it is appropriate to make changes to the quality standards set by the default price-quality path. We must decide the appropriate quality standards for a supplier in a customised price-quality path.[212]

A61 Determining a quality standard different from the DPP is likely to be particularly relevant where an EDB has applied for a customised price-quality path following a catastrophic event. This is because, generally, consumers should not receive a lower standard of quality as a result of the supplier being on a customised price-quality path. An increase in the applicable quality standards (and hence poorer reliability is allowed) may be appropriate following a catastrophic event, where the drivers of quality are not totally within the control of the supplier.

A62 We aim to ensure that the natural cost-reducing incentives provided by price-quality regulation do not cause suppliers to lower service quality below the level demanded by consumers. This is consistent with limb (b) of the Part 4 purpose statement.

A63 Our evaluation criteria in assessing a quality standard variation is the extent to which any proposed quality standard variation better reflects the realistically achievable performance of the EDB over the customised price-quality path regulatory period taking into account statistical analysis of past SAIDI and SAIFI performance and/or the level of investment provided for in the proposed MAR before tax.[213]

A64 This criterion recognises that there may be circumstances in which the historic time series of reliability data prescribed in a default price-quality path determination is unrepresentative of the realistically achievable performance of the EDB over the customised price-quality path regulatory period.[214]

---

212 Commerce Act 1986, s 53M(3).

213 See the evaluation criteria, *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1(e). See also the discussion at Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010) paragraph 9.3.29.

214 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.3.29.

A65 We must provide a level of expenditure in the CPP sufficient to allow the supplier to deliver the approved quality standards. As part of that assessment we considered Orion's circumstances - for instance, its security of supply standards. In our view the level of expenditure provided in the CPP determination does not require a reduction in the quality standards Orion proposed. Our reasons for this view are set out in Attachment L.

A66 In response to our draft determination, Vector argued that our draft decision "to not fund certain expenditure proposals leads to questions about the degree of responsibility [we] should take if these contribute directly to network or reliability problems".[215]

A67 Managing the network and meeting the quality standards in the CPP determination are Orion's responsibility. Orion decides how it prioritises expenditure going forward. It has considerable discretion under the CPP, and we expect it to exercise that discretion such that it does not breach these standards.

We determine the regulatory period

A68 The regulatory period for a customised price-quality path must be five years unless a shorter period would better meet the purpose of Part 4 of the Act. A shorter period may be no less than three years.

A69 There is no explicit commencement date of a CPP period in the Act. The IMs provide for an *ex ante* approach to determining maximum allowable revenues on a forward-looking basis, and calculate incentive mechanisms accordingly. Therefore a CPP will commence on or after the date of the CPP determination.

A70 MEUG's submission on our draft decisions paper argued that the DPP and CPP regulatory periods should align and that the CPP period should start from the date from which claw-back is applied.[216] Orion disagreed with MEUG's arguments.[217] We also disagree with MEUG's submission.

---

215 Vector "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013), at paragraph 80.

216 Franks and Ogilvie "Commerce Commission Draft CPP Determination For Orion NZ Ltd: Jurisdiction, Purpose And Technical Compliance Issues" (20 September 2013) in Major Electricity Users' Group "Orion Customised Price-Quality Path – Response To Draft Determination", (20 September 2013), Appendix 1, pp.2-3.

217 Chapman Tripp "Major electricity users group (MEUG) submission to the Commerce Commission on its draft customised price-quality path (CPP) determination for Orion", in Orion *Orion CPP proposal: Draft Decision: Cross submission* (11 October 2013), Appendix 1,pp.1 and 4.

A71 In our view, amongst other things, the Act does not require alignment of DPP and CPP regulatory periods. The Act explicitly provides for DPP and CPP regulatory periods of different length and contemplates a DPP being in place when a CPP is proposed.

A72 The Act also does not contemplate retrospectively applying the CPP start date. A CPP commencement cannot be backdated under the Act. The Act does not expressly require that the CPP must start from the date from which claw-back is applied. Doing so would be inconsistent with the definition and discretionary nature of claw-back.

We must decide whether to apply claw-back and if so, how much

A73 We must also decide whether an amount should be included in the determination to provide claw-back of any additional costs and/or loss of revenue due to demand reductions. The framework under which we have exercised our judgement on this matter is discussed below. Our decision on claw-back is discussed in Attachment B.

Claw-back is discretionary under the Act and IMs

A74 Claw-back is permitted in a CPP determination under s 53V(2)(b):

> To avoid doubt, and without limitation, in determining a customised price-quality path that complies with s 53M the Commission may do any of the following:
> …
> (b) if it sets a lower or a higher price than applied under the default price-quality path, apply claw-back

A75 Claw-back is defined in s 52D:

> (1) A reference to the Commission applying claw-back is a reference to the Commission doing either of the following:
>
> (a) requiring a supplier to lower its prices on a temporary basis in order to compensate consumers for some or all of any over-recovery that occurred under the prices previously charged by the supplier:
>
> (b) allowing a supplier to recover some or all of any shortfall in its revenues that occurred under the prices previously charged by the supplier.

A76 The two key statutory directions regarding claw-back are:

A76.1 claw-back is discretionary when we determine a customised price-quality path; and

A76.2 where claw-back is applied, it needs to be done so in a manner that minimises price shocks on consumers.

A77 The IMs otherwise preserve the general discretion in section 53V. Clause 5.3.4 of the IMs provides further guidance on our discretion to apply claw-back:

A77.1 confirming that claw-back applies to a CPP;

A77.2 confirming that the decision on whether to apply claw-back is at our discretion. (Specifically, by stating that the application of claw-back in a CPP is pursuant to section 53V(2)(b), which, as discussed above, is a provision which makes it clear that our decision to apply claw-back is *discretionary)*; and

A77.3 providing for two instances where claw-back may apply:

A77.3.1 where it may no longer be appropriate for suppliers to bear the full cost of delay;[218] and

A77.3.2 where the customised price-quality path proposal is made in response to a catastrophic event.[219]

We have regard to supplier's obligations to restore and maintain supply of essential services

A78 In its submission on our issues paper, Vector highlighted the need for us to consider the implications of our approach for the restoration of services following a catastrophic event. Vector noted:[220]

> [A] supplier of essential services has legal, moral and humanitarian obligations to restore supply of those services as quickly as possible following a catastrophic event. At least some, and probably more, of Orion's losses will result from Orion meeting such obligations.

A79 Vector also noted that suppliers of electricity and gas transportation services are listed lifeline utilities in Part B of Schedule 1 of the Civil Defence Emergency Management Act 2002 which requires them to take all necessary steps to undertake civil defence emergency management and ensure that they are able to function to the fullest possible extent after an emergency.[221]

---

[218] For instance, when we exercise our prioritisation powers under s 53Z of the Commerce Act. In this case the delay results in suppliers having to wait longer than the statutory timeframes. Allowing claw-back in these circumstances acknowledges that there is a pressure point where suppliers should no longer bear the full cost of delay based solely on the regulator's choice.

[219] The Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" indicated that claw-back would be considered to address the additional costs incurred in responding to a catastrophic event, rather than a DPP re-opener. This was in response to submissions from regulated suppliers, who raised the question of how the costs incurred prior to a CPP being determined may be recovered.

[220] Vector Limited "Submission to the Commerce Commission on Orion CPP Issues Paper" (24 May 2013), p.4.

[221] Vector Limited "Submission to the Commerce Commission on Orion CPP Issues Paper" (24 May 2013), p.10.

A80 The Electricity Network Association ('ENA') frames the argument in the context of the significant information asymmetry that exists between suppliers and us:[222]

> The Commission...has very little information on the particulars of a given network and is reliant on advisers to guide it on these matters, who in turn may have little knowledge of the particular network of its customers. Neither the Commission nor its advisers has accountability for the ongoing service performance arising from these decisions. Thus it is a context where there is substantial information asymmetry in favour of the supplier and moral hazard on the part of the Commission (i.e. the Commission would not bear the costs of its decisions). In this context the process of testing decisions, and the respective roles of the parties involved when doing so, is important to achieving results that are in the long term interests of consumers.

A81 If it was our objective to minimise prices and nothing else, moral hazard would be a real cause for concern. However, this is not our objective. Our objectives are as laid out in the Act.

A82 We appreciate that suppliers of essential services have obligations to restore their networks following a catastrophic event. We also agree that there is significant information asymmetry regarding their networks. This very point is reflected in the evaluation criteria for assessing CPP proposals. (The evaluation criteria are discussed in Chapter 2.)

A83 However, as ENA suggest, the accountability for the ongoing service performance arising from a supplier's decisions rests solely with that supplier.[223] Accordingly, we agree that the decisions regarding the capex and opex responses undertaken to restore a network most appropriately lie with the supplier who knows its network best.

A84 Following an emergency or catastrophic event, it is not business as usual. Suppliers of essential services will inevitably reprioritise their expenditure and direct previously allocated funds to address the impacts of such an event. In this respect, we note the following:

A84.1 in responding to an emergency it is appropriate that suppliers divert funds previously allocated elsewhere;

A84.2 we do not seek to second guess how a supplier elects to allocate or divert its funds; and

---

222 Electricity Networks Association "Comment on Commissions Paper on Orion's CPP Application" (24 May 2013), p.3.

223 Electricity Networks Association "Comment on Commissions Paper on Orion's CPP Application" (24 May 2013), p.3.

A84.3 we do not control how a supplier spends the pool of money they are allocated through a default or customised price-quality path.

A85 Claw-back provides a mechanism whereby we may adjust a price path to account for a supplier's response to a catastrophic event, where we think that this will strengthen incentives.

A86 We discuss our approach to claw-back in Orion's circumstances in Attachment B.

Fluctuations in demand risk are not the same as other costs

A87 Orion and the other EDBs have also argued that full recovery of costs includes recovery of foregone revenue resulting from a step change reduction in demand following a catastrophic event.

A88 Orion's expert advisor Mr Balchin argues strongly that additional costs and revenue losses should be treated in the same manner, on the basis that they have similar effects on Orion's bottom line:[224]

> I note for completeness that there is no conceptual difference from a regulatory perspective between adverse events that cause a reduction in revenue (through reducing demand) and those that occur to cost.

A89 NERA, another expert advisor to Orion, adopts a similar position, arguing that demand risk should be shifted to consumers.[225]

A90 Conversely, Professor Yarrow suggests that suppliers are best placed to bear demand risk:[226]

> From the perspective of consumers, a reduction in demand is a rather different matter from an increase in repair and replacement costs. In the absence of the second, there might have been, or might be, a deterioration in the services offered to consumers; and that is an obvious consumer detriment. A reduction in demand, on the other hand, has no such direct and immediate implication for quality of service. It may represent nothing more than some consumers moving out of the area, and there is not very obvious reason why consumers as a whole will benefit if some are asked to make good the entirety of the reduced business incomes caused by the decisions (to leave the area) of others.

---

[224] PricewaterhouseCoopers "Long-term incidence of cost recovery following a catastrophic event", in Orion *Proposal for a customised price-quality path* (19 February 2013), Appendix 1, p.9.

[225] James Mellsop and Will Taylor of NERA, "Peer review of PwC report on cost recovery following a catastrophic event", in Orion "Proposal for a customised price-quality path" (19 February 2013), Appendix 2, p.3.

[226] Professor George Yarrow "Advice to the Commerce Commission: The Orion CPP Determination" (June 2013), p.5.

A91 In our view, Professor Yarrow's approach better aligns with the Part 4 purpose statement. While it is clear that specific repair and replacement expenditure benefits consumers, it is less clear that compensating for a reduction in demand benefits consumers. While each 'cost' claimed by Orion needs to be assessed on its merits, compensation for demand risk may therefore need to be justified against quite different considerations.[227] As Professor Yarrow puts it in his second report:[228]

> Ensuring recovery of *ex ante* expected costs, including a normal rate of return on capital, is a means to an end, but it is not an end in itself.

A92 In a workably competitive market shocks to demand and supply functions can be expected to have very different impacts. Professor Yarrow notes that, in a workably competitive market, reduced demand can be expected to place downward (rather than upward, as with Orion's proposal) pressure on prices: [229]

> In the context of supply of a reasonably homogeneous product/service, using long-lived specialised assets, demand reduction in a competitive market can be expected to put downward pressure on prices, more or less immediately in spot markets and potentially more gradually in contract markets (depending upon the form of the contracts used: a long term contract for specified volumes at a price determined by a spot price index would likely show a price response almost [sic] quick as the spot price response itself). It would, I think, be surprising if, having lost some customers, competitive firms with excess capacity and shortrun marginal costs well below the prevailing price level, then increased prices to remaining customers to restore their profitability. Cartelisation might do the trick, but the market could not then be said to be workably competitive.

A93 The impact of a catastrophic event on a supplier's costs and demand for its services can be expected to have very different effects. Therefore, in our view the additional net costs and lower-than-forecast revenues resulting from the earthquakes should be considered separately.

A94 As discussed in Attachment B, allowing claw-back for additional net costs incurred after a catastrophic event helps strengthen regulated suppliers' incentives to invest in restoring their networks (consistent with limb (a) of the Part 4 purpose). Consumers benefit from this expenditure because it helps directly mitigate any deterioration in quality of service (consistent with limb (b)). In contrast, as noted by Professor Yarrow above, reduction in demand has no such direct or immediate implication for the quality of service provided to consumers.

---

227 On the other hand, MEUG argues that the same reasons for declining claw-back for demand shock should also apply to cost shock. MEUG did not agree with our draft decision to allow claw-back in Orion's circumstances. See Major Electricity Users' Group "Orion Customised Price-Quality Path – Response To Draft Determination" (20 September 2013), pp.2 and 10.

228 Professor George Yarrow "Further advice on claw-back" (4 August 2013), p.5.

229 Professor George Yarrow "Further advice on claw-back" (4 August 2013), p.13.

Our previous statements and decisions about the allocation of risk in relation to catastrophic events

A95 A number of submissions on our issues paper express concern that our previous comments regarding the appropriate allocation of risk for catastrophic events have implied a clear intention to address the impacts of catastrophic events *ex post* in a customised price-quality path.[230] Mr Balchin in the PwC report for Orion relies in particular on previous comments we have made on:

A95.1 the benefits to suppliers of creating a self-insurance fund; and

A95.2 our decision not to adjust for type I asymmetric risks in the weighted average cost of capital ('WACC') for EDBs in our cost of capital IM.[231]

A96 We address these comments below in turn.

A97 In our Revised Draft Guidelines for the Cost of Capital in June 2009,[232] we supported, in accordance with expert advice, establishing an insurance fund to address type I asymmetric risks. Experts proposed that suppliers charge an insurance premium that would then be invested in a reserve fund, which would effectively operate as a form of self-insurance.

A98 However, in our final IMs we modified our original approach and chose instead to make the establishment of a self-insurance fund discretionary, and required that any separate self-insurance fund be justified:[233]

> For the purpose of a CPP, the Commission will allow a supplier to recover an allowance for self-insurance as long as it is clear: what risks are being insured; that these risks are credibly self-insured (as opposed to being recoverable *ex post* through reconsideration of the price-quality path); and the self-insurance premium has been independently verified as appropriate by an actuary with the necessary expertise. A supplier must provide the information specified in clause D15 of the IM Determinations. Should a self-insured risk eventuate during the CPP period, then the supplier will not receive *ex post* compensation for that event via a reconsideration of the price-quality path.

A99 A self-insurance reserve or captive must be included in the price-quality path expressly. The default price-quality path does not involve detailed analysis of

---

[230] See for instance Orion "Proposal for a customised price-quality path" (19 February 2013), Appendix 1 - PwC Report on Catastrophic Event Cost Recovery, p.21.

[231] We note that Balchin's argument is not relevant to Orion because Orion's price quality path was not set based on building blocks and the WACC IM.

[232] PricewaterhouseCoopers "Long-term incidence of cost recovery following a catastrophic event", in Orion *Proposal for a customised price-quality path* (19 February 2013), Appendix 1, p.54.

[233] Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph K3.26.

individual components of cost, given that it is set in a low-cost way. It does not therefore make an explicit allowance for self-insurance unless the EDB has established a captive insurer, although that does not preclude an implicit allowance.

A100 The regulatory arrangements pass many of the risks of catastrophic events to consumers, so the residual risk borne by EDBs is relatively small.

A101 In our view, our previous statements are not inconsistent with our current approach. Our approach is to look at what was known to EDBs at the time, and only exercise our discretion regarding costs that were not explicitly or implicitly dealt with *ex ante*.

A102 In formulating our cost of capital IM, we elected not to make an additional *ad hoc* adjustment to the WACC to account for type I asymmetric risks. This is further discussed in Attachment C.

A103 We do not accept that any of our previous statements or decisions can be reasonably construed as suggesting either:

A103.1 that suppliers had no obligation and/or ability to mitigate the risk of catastrophic events *ex ante*; or

A103.2 the risk of these events should be allocated fully to consumers in all circumstances.

There was no 'regulatory compact' that EDBs could claw-back all of the costs and foregone revenue associated with a catastrophic event

A104 A number of submissions from EDBs have argued that there is a “regulatory compact” between the Commission and EDBs (and therefore presumably also Orion) such that following a catastrophic event, EDBs would:

A104.1 recover all of their prudent and efficient costs; and

A104.2 be made whole for any foregone revenues.

A105 In order to establish a regulatory compact, Orion and other suppliers must point to something particular, outside the legislation, and separate from the general features and the nature of the regulatory regime, which overrides the statutory discretion and commits us to allowing full claw-back following a catastrophic event, regardless of the particular circumstances of an individual EDB.

A106 We have not committed to allowing all additional costs and lower revenues resulting from a catastrophic event.

A106.1 In our statements relating to catastrophic events in the IMs Reasons Paper we only discussed (and responded to submissions about) capex and opex costs.

A106.2 In the IMs reasons paper, we did not propose compensation for lost revenue, whether caused by the delay embedded in the regime, or otherwise.[234]

A107 Importantly any *ex post* allowance for lower revenues and additional costs is discretionary. In this regard we note that:

A107.1 claw-back is discretionary under the Act; and

A107.2 the IMs only provide for the possibility of claw-back.[235]

A108 We also note that:

A108.1 neither Orion nor its experts in the initial CPP proposal refer to any promise by us that we would always allow full claw-back where a customised price-quality path is set in response to a catastrophic event, essentially waiving the discretion in section 53V(2)(b); and

A108.2 Orion's terms of reference to PwC do not refer to any such expectation or understanding by Orion.

A109 The lack of initial identification of such a promise appears to be inconsistent with later statements of a clear expectation by suppliers that we are required to allow full claw-back because we have committed to do so.

A110 In submissions on our draft determination, suppliers' focus appears to be that our approach differs from their preferred understanding of the regulatory provisions applying to them.[236] We appreciate that while our approach may not be what they would have preferred, it is clear that we never committed to what would essentially be mandatory claw-back.

A111 We also note that MEUG argues that from a consumer perspective "it was always assumed that Part 4 created a pure *ex ante* regime where suppliers would bear risks

---

234 Letter from Sue Begg to Orion dated 10 December 2012, where we say "The Commission is in the process of confirming its approach for the assessment and determination of Orion's proposed customized price-quality path application. We have not made any final decision about catastrophic cost and/or revenue recovery. In this respect your comments will contribute to our deliberations."

235 For example, while the potential benefits of allowing some claw-back after a catastrophic event are discussed at Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 8.4.27. That discussion begins with the proposition that claw-back "may be applied".

236 For instance, Unison Networks Limited "Submission on the Commission's draft decision on Orion's customised price-quality path" (20 September 2013), pp.3-5.

which matured during a regulatory period".[237] So from a consumer's point of view, there was no expectation of *ex post* recovery.

We will not *allow claw-back where the costs have already been fully provided for* ex ante

A112 We will not apply claw-back following a catastrophic event where the costs have already been fully accounted for in the price-quality path. However, this is not the only factor which influences our claw-back decision.

A113 We signalled this approach at paragraph 8.4.22 of the IMs Reasons (emphasis added):

> 8.4.22 Catastrophic events are events that:
>
> • are outside the reasonable control of a regulated supplier;
>
> • are unforeseen at the time the price-quality path was determined; and
>
> • in respect of which:
>
> - action required to rectify its adverse consequences cannot be delayed until a future regulatory period without quality standards being breached;
> - remediation requires either or both of capital expenditure or operating expenditure during the regulatory period; and
> - **the full remediation costs are not provided for in the price-quality path.**
>
> 8.4.23 As discussed above, if a material catastrophic event occurs for a supplier on a DPP, then the appropriate way to deal with that will generally be for the supplier to apply for a CPP that takes account of their particular circumstances. The Commission may also decide to exercise enforcement discretion, as discussed further below.

A114 We have also previously signalled that if a supplier receives *ex ante* compensation for a risk in the form of a self-insurance allowance, then *ex post* compensation will not be provided.[238] As stated in Attachment B, it is not clear whether Orion received *ex ante* compensation in the 2010 DPP.

---

237 Major Electricity Users Group "Orion customised price-quality path - response to draft determination" (20 September 2013), p.3.

238 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph K3.26.

We do not agree that the time taken to determine a customised price-quality path guarantees claw-back

A115 In its CPP proposal, Orion included foregone revenue resulting from a reduction in demand following the earthquakes. To support this, Orion suggested that it would be prejudiced by the systemic regulatory delay in our determination of its customised price-quality path.[239]

> There would be very little claw-back if our network prices had been allowed to adjust quickly on 1 April 2011 and not 1 April 2014. The claw-back issue is a regulatory construct and not of our making.

A116 This view was also expressed by other EDBs.[240]

A117 While we acknowledge the regulatory regime includes an unavoidable time lag between an event giving rise to the CPP proposal and the CPP determination coming into effect, we do not think that this amounts to a prejudice that guarantees claw-back.

A118 This is consistent with the scheme of the Act:

A118.1 the Act has set an inflexible statutory timeframe for evaluating a CPP and determining a price-quality path. If we fail to meet this timeframe, Orion's proposal becomes its price-quality path;

A118.2 the Act fails to give CPPs retrospective application; and

A118.3 if Parliament had intended for claw-back to neutralise the impacts of the statutory time frame for determining a CPP, it would have made claw-back mandatory rather than discretionary.

A119 The IMs reasons paper implicitly recognises that suppliers bear the risk associated with the time period before the CPP comes into effect. Conversely, the IMs specifically allow claw-back where a CPP proposal is deferred because of our use of prioritisation powers.

A120 The regime contemplates that setting a customised price-quality path will take a reasonably long period of time: it does not promise immediate relief, only a faster (and more tailored) adjustment than waiting for the next default price-quality path

---

239 Orion New Zealand Limited "Submission on the Orion CPP issues paper" (24 May 2013), p.6.

240 See, for example, Vector Limited "Submission to the Commerce Commission on Orion CPP Issues Paper" (24 May 2013), p.11; Wellington Electricity Lines Limited "Invitation to comment on Orion's CPP proposal" (24 May 2013), p.1. We note that Vector has previously acknowledged the "risks, costs uncertainties and timing difficulties associated with the CPP process" in its submissions on the IMs appeals. See paragraphs 3.6-3.7 and 3.14 of Vector's submission.

reset. The standard customised price-quality path is envisaged to take 14 months from the time the proposal is lodged, so a time lag is contemplated. The legislation contemplates that claw-back *may* be allowed. Either way, it will only address the time lag where we exercise our discretion and if it meets the statutory purposes in s 52A and s 53K.

A121 To the extent the submission is that demand risk following a catastrophic event should not be borne by Orion at all, we disagree. As discussed in Attachment B, the period for which a supplier is exposed to demand risk as a result of a catastrophic event is limited to the time between the event and the next reset of the path.

A122 Demand is reforecast at the time a price-quality path is reset, therefore, demand risk is 'recalibrated' over the next regulatory period. This is a construct of the regulatory framework, which balances incentive properties against other objectives. It is not unique to a customised price-quality path; an unexpected drop in demand midway through a default price-quality path has a greater impact than at the end of a default price-quality path.

We can vary the IMs that apply to Orion's customised price-quality path

A123 Under section 53V(2)(c) of the Act, we may vary the IMs that apply to our customised price-quality path determination with the agreement of Orion. Any such variation applies only to our determination of this customised price-quality path for Orion, and does not amend the IMs as they apply to other EDBs.

A124 Given IMs are intended to promote certainty for regulated suppliers and consumers, we have adopted a high threshold to agreeing to IM variations. We have agreed to two variations, including one which we consider addresses a gap in the regulatory framework.

A125 We have agreed a variation to the IM to allow Orion to claw-back to the date of the first earthquake, September 2010. This allows, but does not commit, us to clawing back in that period.

A126 The IMs require that a customised price-quality path proposal relating to a catastrophic event is submitted within two years of the catastrophic event occurring.[241] Orion's CPP proposal was made within two years of the February 2011 earthquake. However, under the IM, this would exclude us from considering the costs associated with responding to the earlier September 2010 earthquake.

A127 We have also agreed a variation to the recoverable costs in the specification of price IM by adding a further recoverable cost. The new recoverable cost will only be

[241] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.3.4(4).

available to Orion if a catastrophic event occurs during the period of the Orion customised price-quality path and if the path is re-opened. This IM variation provides for the potential recovery of additional net costs due to another catastrophic event occurring within the CPP regulatory period.

Attachment B: Claw-back

Purpose of this attachment

B1 This attachment explains our decisions on past additional costs and lower-than-forecast revenues faced by Orion between the first major earthquake in September 2010 and the start of the CPP period. Specifically, this attachment:

B1.1 summarises our decision that Orion should be allowed to claw-back $34.8m of additional net costs incurred due to the Canterbury earthquakes over the five year CPP period.[242]

B1.2 summarises Orion's proposed recovery from consumers of *all* past additional costs incurred and lower-than-forecast revenues resulting from the earthquakes;

B1.3 outlines the reasons for our view that additional costs and lower-than-forecast revenues should be shared between Orion and consumers, and explains why this approach is more consistent with the Part 4 purpose statement (and the regulatory regime more generally) than Orion's proposed approach;

B1.4 explains that other major categories of earthquake-related costs are recovered through mechanisms other than claw-back, which impacts on the overall degree of sharing between Orion and consumers;[243]

B1.5 explains the reasons for our view that Orion should be allowed to claw-back additional net costs incurred due to the Canterbury earthquakes, but receive no allowance for past lower-than-forecast revenues;

B1.6 provides further responses to submissions received regarding claw-back; and

B1.7 explains how we calculated claw-back for additional net costs of $34.8m.

---

[242] The claw-back amount in our draft decision was $28.6m. In determining the final claw-back amount a number of factors have moved in different directions (with a broadly offsetting effect), the final claw-back amount of $34.8m includes $7.5m of under-recovered pass-through costs for 2011 and 2012, which were allowed for as recoverable costs in our draft decision and are now included as claw-back. See paragraphs B112 to B142 below for further discussion.

[243] Claw-back is limited to the transition period between the September 2010 earthquake and the start of the CPP period on 1 April 2014.

Summary of our approach to claw-back

B2 Orion proposed claw-back of $86.3m, which included recovery of all past additional costs and lower-than-forecast revenues resulting from the Canterbury earthquakes. Under Orion's proposal, consumers would bear *all* the financial impact of the earthquakes.

B3 In our view, the financial impact of the earthquakes should be *shared* between Orion and its consumers. Imposing the entire financial impact of the earthquakes on consumers is not consistent with the Part 4 purpose because:

B3.1 it is unusual for consumers to bear *all* the costs and risks of catastrophic events in a workably competitive market. Workably competitive markets tend to manage risks efficiently, by allocating identified risks to the party best placed to manage them;

B3.2 regulated suppliers (and their investors) are generally better placed to manage the risks of catastrophic events than consumers;[244] and

B3.3 from a forward-looking perspective, allocating all the costs and risks of catastrophic events to consumers would reduce the incentives for suppliers to manage these risks efficiently (ie, create a moral hazard).[245]

B4 We have allowed Orion to claw-back $34.8m from consumers. Our decision shares the financial impact of the earthquakes between Orion and consumers, which is consistent with the Part 4 purpose.

B5 Claw-back of $34.8m compensates Orion for additional net costs incurred in responding to the earthquakes. We have compensated Orion for these costs because:

B5.1 allowing claw-back for additional net costs helps strengthen incentives for the supplier to focus on restoring its network in the aftermath of a catastrophic event (without necessarily maintaining the same level of planning and oversight as it would for business as usual expenditure); and

---

244 Investors are able to limit their risks through diversification. Suppliers can manage risks associated with catastrophic events through a combination of measures, including insurance, self-insurance and investment in network strengthening/resilience. Consumers, on the other hand, have a relatively limited ability to manage the risks of damage to electricity distribution networks due to catastrophic events and are likely to be facing significant other costs from the catastrophic event.

245 A moral hazard is a situation where a party will have a tendency to take risks because the costs that could result will not be felt by the party taking the risk.

B5.2 additional expenditure following a catastrophic event may be vital to meet demand in a region. Consumers benefit from this expenditure because it helps mitigate any deterioration in quality of service.

B6 We also note that the IMs reasons paper signalled that claw-back “may be applied” for “prudent additional costs incurred in responding to the [catastrophic] event".[246]

B7 However, we have not compensated Orion for past lower-than-forecast revenues due to the earthquakes. No claw-back has been provided for lower-than-forecast revenues because:

B7.1 the fact that Orion is subject to price cap (rather than revenue cap) regulation means that it bears demand risk by default; and

B7.2 investor diversification minimises the impact of demand risk.[247] To well-diversified investors, only the demand risks that affect all investments matter.[248] The demand risks specific to one investment can be expected to be offset by those of other investments, and unexpected positive and negative shocks may be experienced by individual businesses over time. Such shocks are therefore of little consequence to a well-diversified investor.

B8 Further, we made no prior commitment that claw-back of lower-than-forecast revenues would be allowed following a catastrophic event.

B9 Although our decision provides no claw-back for past lower-than-forecast revenues due to the Canterbury earthquakes, demand risk is still shared between Orion and consumers.

B9.1 Orion bears the impact of lower-than-forecast revenues between the first earthquake in September 2010 and the start of the CPP period on 1 April 2014.

B9.2 Prices are reset at the beginning of the CPP period to reflect the impact of reduced demand due to the earthquakes. Therefore, consumers will bear

---

246 Commerce Commission “Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper” (22 December 2010), paragraph 8.4.27.

247 Our approach recognises that it would not be appropriate to impose additional costs on consumers where EDB owners have chosen an ownership arrangement that precludes diversification.

248 A well-diversified investor would diversify across different sectors, asset classes and countries, which would mitigate demand risks specific to one investment.

the impact of reduced demand due to the past earthquakes from the start of the CPP period.[249]

B10 Consistent with the IMs, other categories of earthquake-related costs and losses are recovered from consumers through mechanisms other than claw-back.

B10.1 The approach to RAB, which has no *ex ante* approval or *ex post* prudency review, means all capex (once commissioned) is added to the RAB and can earn a return on and of capital once the CPP is set. Therefore, expenditure to mitigate the impacts of catastrophic events gets recovered, as does any capital expenditure to repair, restore or improve services after a catastrophic event.[250]

B10.2 The value of assets that are damaged beyond repair, but not disposed of by Orion, remains in the RAB, and (to the extent that the damage exceeds insurance proceeds) will effectively continue to be recovered through future prices once the CPP is set. Orion estimates the value of assets that are damaged beyond repair to be between $3m and $10m.

B11 Given that we have allowed claw-back for additional net costs incurred due to the earthquakes, lower-than-forecast revenues between the September 2010 earthquake and the start of the CPP period is the only category of earthquake-related costs and losses that consumers will not bear under our decision.

B12 Our decision to allow claw-back for additional net costs of $34.8m was made in the specific circumstances of Orion's CPP proposal. For example, we note that Orion appears to have acted prudently in the past to help manage the risks associated with earthquakes. Any future claw-back requests from Orion or other EDBs will be considered on their merits.[251]

Orion has proposed recovery of all past lower-than-forecast revenues and additional costs due to the Canterbury earthquakes

Orion has proposed claw-back of $86.3m

B13 Orion has proposed claw-back of $86.3m to recover lower than expected revenues and additional costs due to the earthquakes. This claw-back amount is calculated

249 Orion then bears future demand risk from the beginning of the CPP period. However, if another catastrophic event occurs during the CPP period, Orion is able to apply for the price path to be reconsidered. See Attachment C for further discussion.

250 With the exception of depreciation of, and return on, an asset post commissioning before the CPP takes effect, if claw-back is not applied.

251 For Orion's CPP period, we have agreed an IM variation with Orion which allows additional costs associated with future catastrophic events to be recovered as a recoverable cost. See paragraphs C34 to C36 for further discussion.

over the period from when the first major earthquake occurred in September 2010 until the start of the CPP period on 1 April 2014 (the claw-back period).[252]

B14 Orion explains its claw-back proposal as follows:[253]

> Our proposed claw-back allowance seeks to recover our earthquake-related costs which were not anticipated or insurable when our DPP price path was set. This ex post cost recovery is:
>
> - consistent with the manner in which our DPP price path was set (because our DPP price path includes no allowance for unanticipated costs of this nature)
> - in the long term interests of consumers.
>
> It ensures that we retain the economic incentives to continue to provide the services that consumers require of us because we are compensated for our prudent and efficient costs in providing those services, including a risk adjusted commercial return on our investment.
>
> Our proposed cost recovery includes ex post compensation for reduced revenues as a result of the earthquakes which has contributed to our under recovery of costs since the earthquakes.

B15 The proposed claw-back amount of $86.3m is calculated as the present value (on 1 April 2014) of the difference between BBAR before tax and actual or projected revenues received over the claw-back period.[254]

B16 Orion proposes to spread recovery of claw-back over 10 years. its main reason for proposing to recover claw-back beyond the CPP period is to minimise price shocks to consumers.[255]

> Our proposal is to spread the catastrophic event claw-back recovery over 10 years. This comprises at least two regulatory periods – the initial five year CPP regulatory period followed by one or more CPP or DPP regulatory periods. Our key driver for spreading this recovery over more than one period is to minimise price shocks to our consumers. At the same time, it is essential that the catastrophic event claw-back is ultimately recovered in order to maintain long term incentives to invest in the Orion network, and all electricity distribution networks regulated under Part 4 of the Commerce Act.

---

252 Orion submitted its CPP proposal in February 2013, which is two years from the February 2011 earthquake. We have allowed claw-back from the first earthquake in September 2010 by varying the IMs (with agreement from Orion). See paragraphs A125-A126.

253 Orion "Proposal for a customised price-quality path" (19 February 2013), p.162.

254 Orion used the DPP cost of debt (7.93%) to calculate the present value of its proposed claw-back amount ($86.3m). Orion "Proposal for a customised price-quality path" (19 February 2013), pp.168-175.

255 Orion "Proposal for a customised price-quality path" (19 February 2013), p.86.

B17 Under Orion's proposal, $43m would be recovered from consumers during the CPP period, and the remaining $43m recovered in the five years after the CPP period.

Orion's proposal includes claw-back of both additional expenditure and lower-than-forecast revenues

B18 Two main components are captured in Orion's proposed claw-back amount:

B18.1 additional costs due to the earthquakes, including increased operating expenditure and a return on and of additional capital expenditure. This increased expenditure reflects the costs of repairing and replacing damaged and destroyed assets over the claw-back period;[256] and

B18.2 an amount to compensate Orion for lower-than-forecast revenues over the claw-back period, due to lower than expected demand. This reflects all factors that influence demand, including the impact of consumers moving away from Orion's network area (eg, to other EDB areas), or having their electricity consumption constrained due to outages on Orion's network or damage to their properties.

B19 Additional costs and lower-than-forecast revenues are not separated in Orion's proposal. Submissions from Orion and its experts argue that these two components of claw-back should be treated the same, and both should be fully recovered from consumers *ex post*.[257]

Risk sharing between Orion and consumers is consistent with the Part 4 regulatory regime

B20 Under Orion's proposed approach to claw-back, consumers would bear *all* the costs and risks associated with catastrophic events. Orion proposes that consumers should compensate it for all additional costs and lower-than-forecast revenues resulting from the earthquakes, through higher prices after the event.

B21 We do not agree with Orion's approach. In our view, *sharing* the costs and risks of the earthquakes between Orion and consumers is appropriate because:

B21.1 sharing the risks of catastrophic events is more consistent with the Part 4 purpose than consumers bearing all the risks;

B21.2 a well-diversified investor would require little or no *ex ante* compensation for bearing the demand risk specific to a particular EDB;

---

[256] The expenditure is after insurance proceeds received by Orion in the claw-back period have been deducted.

[257] See paragraphs A87-A94 for further discussion.

B21.3 there was no *ex ante* agreement for consumers to bear all the costs of the earthquakes; and

B21.4 under incentive regulation regulated suppliers can expect to earn a normal return, but regulation provides no guarantee that suppliers will earn a normal return.

Sharing the risks of catastrophic events is more consistent with the Part 4 purpose than consumers bearing all the risks

B22 Workably competitive markets tend to manage risks efficiently by allocating identified risks to the party considered best placed to manage them.[258]

B23 Regulated suppliers and their investors are generally better placed to manage risks of catastrophic events (such as earthquakes) than consumers. For example:

B23.1 investors can reduce their exposure to catastrophic risks by diversification; and

B23.2 suppliers can manage risks associated with catastrophic events through a combination of measures, such as insurance, self-insurance, and investment in network strengthening/resilience.

B24 Investors can hold a range of investments to limit their risks through diversification.[259] In the IMs reasons paper we noted:[260]

> To well-diversified investors, only the risks that affect all investments matter; the risks specific to just one investment can be expected to offset one another and are therefore of little consequence. The return they seek reflects the effect of each investment on the risk of the overall portfolio, not the risk of a single investment viewed in isolation.

B25 For a diversified investor in Orion, the impact of the Canterbury earthquakes on demand would have had a relatively small effect on their portfolio return. The impact of the earthquakes from the perspective of a diversified investor is discussed in more detail in paragraphs B73 to B97 below.

B26 Orion's CPP proposal highlighted that suppliers are able to mitigate the risks of catastrophic events in multiple ways. For example, Orion insures all of its key

---

258 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 2.6.4.

259 See, for example, M Grinblatt and S Titman *Financial Markets and Corporate Strategy* (2nd ed, McGaw-Hill Irwin, New York, 2002), p.89 and 181-183 for further discussion on the principle of diversification. Diversification is a key foundation of the approach to cost of capital in the IMs.

260 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 6.2.2.

substations at full estimated replacement cost.[261] Orion also spent $6m on seismic protection prior to the Canterbury earthquakes.[262] Consumers, on the other hand, have a relatively limited ability to manage the risks of damage to electricity distribution networks due to catastrophic events.

B27 In response to the draft decision, Orion noted that the reduced revenue it faced after the earthquakes was largely due to damage to its consumers' properties, rather than damage to its network. Orion argued that it is not able to mitigate the risks of damage to its consumers' assets.[263] However, we note that Orion's investors are able to manage this risk through diversification. In our view, consumers should not pay higher prices because Orion's owners choose not to diversify their investment.[264]

B28 Orion proposes that consumers should compensate it for all additional costs and lower-than-forecast revenues resulting from the earthquakes *ex post*. If Orion's approach to claw-back was adopted, Orion would effectively bear none of the costs or risks of the Canterbury earthquakes.

B29 Professor Yarrow suggests that it is unlikely workable competition would lead to a situation where the earthquake risk was removed from suppliers and allocated to consumers.[265]

> Prima facie, it does not appear to be the case that Christchurch electricity consumers are so well placed to bear earthquake risk that workable competition would lead to outcomes and arrangements in which all relevant risk was removed from suppliers and allocated to consumers. Perhaps the most obvious point is that suppliers, particularly larger suppliers, at least have the opportunity to spread risks beyond the Christchurch area via ownership diversification or via borrowing in geographically wider markets.

B30 It is clear that consumers are not best placed to manage *all* the risks of catastrophic events. Compared to suppliers (and their investors), consumers are relatively limited in their ability to mitigate these risks. Therefore, in our view, Orion's approach to claw-back would not promote outcomes consistent with workably competitive markets.

B31 We think sharing the costs and risks of catastrophic events between Orion and consumers is supported both by considering how workably competitive markets might operate generally, and by considering limbs (a) to (d) of the Part 4 purpose statement.

---

261 Orion “Proposal for a customised price-quality path” (19 February 2013), p.162.
262 Orion “Proposal for a customised price-quality path” (19 February 2013), p.67.
263 Orion "Orion CPP proposal: Draft decision" (20 September 2013), p.26.
264 See paragraphs B98 to B104 below.
265 Professor Yarrow “The Orion CPP determination” (30 May 2013), p.2.

B31.1 Limb (a) "incentives to innovate and to invest" of the purpose statement must be interpreted consistent with limbs (b) "incentives to improve efficiency", (c) "share with consumers the benefits of efficiency gains" and (d) "limited in their ability to extract excessive profits".

B31.2 To be consistent with limb (b), suppliers must have incentives to improve efficiency. Dynamic efficiency is a crucial dimension of economic efficiency, and relates to investing and innovating over time in the most optimal manner (so that the welfare of society is maximised over time). This includes efficient investment to manage the risk of catastrophic events.

B31.3 The approach to risk allocation impacts on incentives to innovate and invest (limb (a)), as well as economic efficiency (limb (b)). Providing appropriate incentives to manage risks efficiently will lead to the opportunity for consumers to benefit from sharing of efficiency gains (limb (c)).

B32 In our view the four limbs of the purpose statement need to be considered together. Professor Yarrow notes that from an economics perspective, the limbs of the purpose statement are not separable:[266]

> Whilst it is to be expected that the four limbs correspond to outcomes that can be expected in competitive markets, it is a key feature of such markets that they also establish an appropriate, overall *balance* in the structure of incentives and (inseparable from incentive considerations) in risk or benefit sharing arrangements.

B33 Submissions from Incenta and NERA argue that if Orion does not receive *ex post* compensation for all the additional costs and lower-than-forecast revenues associated with the earthquakes, investment incentives will be diminished.[267] For example, Incenta submitted that if suppliers do not receive *ex post* compensation via claw-back:[268]

> …distributors would expect to earn less than a normal return, in turn adversely affecting the incentives and capacity for investment in necessary network assets. This outcome would not be consistent with the requirements of the purpose statement in Part 4 of the Commerce Act and not with the long term interests of consumers.

B34 However, no evidence has been presented to show that not providing claw-back for all additional costs and lower-than-forecast revenues due to the earthquakes will actually impact on efficient investment.

---

[266] Professor Yarrow "Further advice on claw-back" (4 August 2013), p.9.

[267] NERA "Review of Yarrow report" (27 June 2013), in Orion "Orion CPP Proposal: Commerce Commission's Expert Reports" (27 June 2013), Attachment B, p.3.

[268] Incenta "Response to Professor Yarrow Advice on Orion CPP Determination" (27 June 2013), in Orion "Orion CPP Proposal: Commerce Commission's Expert Reports" (27 June 2013), Attachment A, p.2.

B35 Further, the submissions from Incenta and NERA referred to above are primarily focused on limb (a) of the purpose statement, which relates to incentives to innovate and invest. As noted earlier, it is important to consider all four limbs of the purpose statement in combination.

B36 Allowing claw-back for all additional costs and lower-than-forecast revenues would create a moral hazard. Regulated suppliers (such as Orion) would be incentivised to take a riskier approach to managing catastrophic events, knowing that consumers would bear the full costs *ex post* if a catastrophe occurs.[269]

B37 Isolating regulated suppliers from the risks of catastrophic events is inconsistent with the Part 4 purpose. The Part 4 purpose is focused on serving the long-term benefit of consumers by promoting outcomes consistent with workably competitive markets, such that outcomes consistent limbs (a) to (d) are promoted. It is important that suppliers bear (at least some of) the risks of catastrophic events to strengthen their incentives to manage these risks efficiently (consistent with s 52A(1)(b)).

No additional ex ante *compensation is required by a diversified investor for bearing demand risk*

B38 Orion operates under a weighted average price cap, rather than a revenue cap.[270] The fact that Orion is subject to price cap regulation means that it bears demand risk (unless specified otherwise). As noted by Professor Yarrow, under the standard RPI/CPI-X approach to regulation:[271]

> - Once set, the maximum prices/revenues are pre-determined for the period, except where there are specific provisions in the relevant determination for subsequent adjustment; and
>
> - An immediate corollary is that the distribution of risk is determined by the maximum price/revenue decision itself. Except where a particular risk is explicitly identified and explicit provision is made for *ex post* adjustment to the price / revenue cap in the light of new circumstances, it is inherent in the pre-determination of prices/revenues (which is central to the incentive properties of the CPI/RPI – X approach) that the distribution of all other risks, whether explicitly considered at the

[269] We acknowledge that a significant proportion of the reduced revenue Orion faced after the earthquakes was due to damage to its consumers' properties (rather than damage to its own network). However, as noted in paragraph B27 above, Orion's investors are able to manage this risk through diversification.

[270] Part 4 provides a number of options for ‘capping’ revenues or prices under price-quality regulation. Section 53M(1) allows price-quality paths to be specified in terms or maximum revenues and/or prices, and the definition of ‘price’ (in s 52C) itself means any one or more of individual prices, aggregate prices, or revenues (whether in the form of specific numbers or in the form of formulae by which specific numbers are derived).

[271] Professor Yarrow "Responses to further questions concerning the Orion CPP Final Decision" (22 November 2013), p.4.

> time of the price review or not, is also determined. Put another way, potential ambiguities are automatically resolved at the time the price/revenue determination is settled. It therefore does not follow that if a specific risk is not explicitly identified in the price review that its allocation is uncertain or open to interpretation.

The outcome is economically similar to the position created by a fixed-price contract that might be determined under more competitive conditions. When the price is set, the supplier knows that it will subsequently be exposed to both cost and demand risks.

B39 In the case of Orion's claw-back proposal, there was no *ex ante* agreement that consumers would bear demand risk associated with catastrophic events (see Attachment A and this attachment below for further discussion).[272] Rather, the form of price control (price cap, rather than revenue cap, regulation) allocates demand risk to Orion by default.

B40 In any case, little or no *ex ante* compensation is required by a diversified investor to bear demand risk.

B40.1 Our analysis indicates that the impact of the Canterbury earthquakes on a hypothetical investor that diversified across all EDBs in New Zealand was insignificant.[273] The relatively minor impact on demand for New Zealand EDBs resulting from the Canterbury earthquakes supports the view that a diversified investor would not require additional compensation for demand risk associated with the Canterbury earthquakes.

B40.2 In reality, a well-diversified investor is likely to diversify across different sectors, asset classes and countries, which would further reduce the impact of demand risk associated with the Canterbury earthquakes. The impact on a well-diversified investor is most relevant when considering whether any additional *ex ante* compensation is required for bearing demand risk.

There was no ex ante *agreement for consumers to bear all the costs of the earthquakes*

B41 In the draft decision we suggested that Orion is likely to have received some *ex ante* compensation for the risks of catastrophic events through its current price path. We explained that:[274]

B41.1 earthquake risk was anticipated by Orion;[275]

---

272 At paragraphs A104 to A111 and at paragraphs B41 to B44.

273 See paragraphs B73 to B97 below for further discussion.

274 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), pp.113-119.

275 Strengthening work was conducted by Orion during the 1990s and 2000s to address earthquake risk. In its 2006 asset management plan Orion noted that there was "…a 65% chance of a major earthquake

B41.2 Orion’s current regulated prices are a roll-over of historic prices which were derived from prices set by Orion itself in the early 2000s;

B41.3 evidence of actual returns is not inconsistent with the view that Orion’s current price path has been sufficient to include some provision for catastrophic risk; and

B41.4 insurance for earthquake risks was available and Orion is likely to have self-insured to some extent.[276]

B42 However, we also noted (emphasis added):[277]

> …we recognise that no explicit *ex ante* allowance for catastrophic risks has been made in the assessments underlying the setting of price paths, albeit that such assessments have included general provisions to guard against inadequate incentives for investment based on the Commission’s long standing views favouring dynamic efficiency over lower short term prices.
>
> **Given that material uncertainty exists regarding the extent of any *ex ante* compensation for catastrophic risk received by Orion, we do not think the evidence is clear enough to eliminate the possibility of Orion receiving claw-back**. Rather, any *ex ante* compensation Orion is likely to have received is simply a factor that we have considered when exercising our discretion regarding claw-back.

B43 In response, Orion disagreed with our view that its current prices are likely to have included an *ex ante* allowance for catastrophic risks.[278] Other submissions also queried the extent to which Orion's current prices include an *ex ante* allowance for these risks.[279]

---

occurring in Canterbury in the next 50 years". See Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision” (14 August 2013), paragraphs C24-C27.

276 In response to the draft decision, we received several submissions disputing Aon's views regarding the availability of insurance for transmission and distribution (T&D) assets. We have not directly responded to these submissions because the availability of T&D insurance is not material to our decision.

277 Commerce Commission " Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), p. 113, paragraphs C22-C23.

278 Orion "Orion CPP proposal: Draft decision" (20 September 2013), p.32-35, paragraphs 140-154.

279 See, for example, Powerco "Powerco submission to setting the 2014-2019 customised price quality path for Orion New Zealand Limited: Draft Decision" (20 September 2013), p.3; Unison "Submission on the Commission's draft decision on Orion's customised price-quality path" (20 September 2013), pp.6-9; Vector "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013), p.15- 16; Castalia "Draft Decision on Orion CPP Application " (20 September 2013), p.6.

B44 Due to the nature of Orion's DPP, we acknowledge that it is not clear how much *ex ante* compensation Orion has received for catastrophic risk.[280] However, in our view it is clear that there was no agreement for consumers to fully compensate Orion *ex post* for all additional costs and lower-than-forecast revenues (as proposed by Orion).[281]

Incentive regulation provides no guarantees to suppliers

B45 Orion and other EDBs subject to price-quality regulation under Part 4 operate under a weighted average price cap. The New Zealand regulatory regime adopts an incentive based approach to regulation, using a CPI-X methodology to setting price-quality paths.

B46 Incentive regulation provides suppliers with an expectation of a normal return *ex ante*, based on information available at the time of setting the price-quality path. The price-quality path sets an upper limit on the prices that suppliers can charge. However, it is not a guaranteed entitlement to earn a certain level of returns.

B47 Although a supplier might have a reasonable expectation of earning a normal return *ex ante*, it is possible that a normal return is not earned *ex post*. This is because incentive regulation allocates certain risks to suppliers, in order to strengthen incentives to operate efficiently.

B48 Suppliers not being guaranteed to recover costs associated with catastrophic events is consistent with outcomes in workably competitive markets.[282] For example, Synlait submitted:[283]

> All businesses in the Canterbury area had to incur costs involved with getting up and running again after the earthquake. Generally, as was the case with Orion, demand was reduced for some time after the event and businesses just had to take this as a loss. Any attempt to

---

280 Prior to the CPP, Orion's prices were not set using a building blocks approach. Orion's DPP was based on a roll-over of historic prices originally set under the previous Part 4A thresholds regime. Therefore, it is not clear how much *ex ante* compensation Orion has received for catastrophic risk.

281 The IMs reasons paper signalled that recovery of (at least some) prudent additional costs might be permitted following a catastrophic event. We stated that claw-back "may be applied" following a catastrophic event to ensure EDBs recover "prudent additional costs incurred in responding to the event" (see paragraph 8.4.27). However, the IMs reasons paper only referred to "prudent additional costs", and not reduced revenues due to a catastrophic event. Reduced revenues are clearly not an additional cost *incurred* in *responding* to the event.

282 See, for example, Contact "Re: Draft decision on Orion's customised price-quality path proposal" (20 September 2013), p.2; Meridian "Draft decision on Orion customised price-quality path proposal" (11 September 2013), p.1; Major Electricity Users' Group "Orion Customised Price-Quality Path - Response To Draft Determination" (20 September 2013), pp.8-9; and MEUG "Orion CPP - Draft Determination - Cross Submissions" (11 October 2013), p.4.

283 Synlait "Response to Commerce Commission's invitation to have your say on Orion's proposal to change its prices and quality standards" (31 May 2013), pp.2-3.

recover that from consumers who remained could meet with consumers moving away from that supplier to one who was more reasonably priced.

…

[Orion's] proposal to increase prices to recover this loss is totally at odds with what would happen in any competitive business. There is no way that a business which is subject to commercial pressures can just increase their prices to make up for a period of poor performance or a dramatic fall in demand.

B49 Christchurch City Holdings Limited has argued that our draft decision does not recognise "…the right of shareholders to a reasonable rate of return on investment".[284] However, as described above, no investor has such a "right" to a reasonable rate of return in a workably competitive market. In particular, an undiversified investor has no such right to expect consumers to compensate it for the impact on its returns of not diversifying.[285]

B50 The fact that regulated suppliers are not guaranteed to earn a normal return *ex post* was highlighted in the IMs reasons paper (emphasis added):[286]

Over the lifetime of its assets, a typically efficient firm in a workably competitive market would expect *ex ante* to earn at least a normal rate of return (i.e. its risk-adjusted cost of capital). Because allowing a firm the expectation of being able to earn normal returns over the lifetime of an investment provides it with the chance to preserve its 'financial capital' in real (not nominal) terms, such an outcome is often referred to as 'financial capital maintenance' or 'FCM'. **In a regulatory context, FCM is achieved, on an *ex ante* basis**. This is comparable to expectations in competitive markets that are conducive to promoting investment. It is not, however, possible to guarantee that regulated suppliers earn a normal return over the life of assets, because any analysis used to monitor profitability, or to set regulated prices, will typically be conducted part way through the lifetimes of the assets utilised in supplying regulated services. Some information about past performance may not be known. **Further, the allocation of risks between suppliers and consumers will usually mean that, although suppliers might have expected to earn a normal return *ex ante*, such a return is not earned *ex post***.

B51 Similarly, Professor Yarrow notes that price cap regulation generally affords no guarantees, even to efficient suppliers:[287]

In relation to outcomes, price-cap regulation generally affords no absolute guarantees, even to efficient firms, that full costs will be recovered. This is emphasised in NZ in by the adoption of the workable competition benchmark. Thus, suppliers in workably competitive markets

---

284 Christchurch City Holdings Limited "Submission by Christchurch City Holdings Limited to Commerce Commission in response to Draft Customised Price Path decision for Orion" (20 September 2013), p.4.

285 We note that one of Orion's expert advisors has submitted that we should not have regard to the specific characteristics of Orion's shareholder (see paragraph B103 below). We agree with this submission.

286 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), pp.36-37.

287 Professor Yarrow "The Orion CPP determination" (30 May 2013), p.21.

are not guaranteed to recover full costs, even if efficient. For example, they may suffer unexpected loss of demand in consequence of product innovations in substitutes.

B52 Under incentive regulation, suppliers have flexibility in how they choose to operate within their price (or revenue) cap. For example, Orion has a range of available options to manage the risks of catastrophic events (including insurance, self-insurance and investment in network strengthening/resilience). As discussed earlier, Orion insures its key substations and invested $6m in seismic protection prior to the Canterbury earthquakes.[288]

B53 A key feature of incentive regulation is that suppliers bear the consequences of their decisions, both positive and negative. Therefore, suppliers should not (by default) expect to be compensated *ex post* if they fail to earn a normal return under the price path that was set *ex ante*.

Claw-back is only one mechanism under which earthquake-related costs are recovered by Orion

B54 For the reasons described above, we have concluded that sharing the costs of the Canterbury earthquakes between Orion and its consumers is consistent with the Part 4 regulatory regime.

B55 A number of mechanisms are available for implementing this sharing; claw-back is only one possible way in which Orion is able to recover earthquake-related costs. In particular, consideration of claw-back relates to the additional costs and lower-than-forecast revenues between the first earthquake in September 2010 and the start of the CPP period on 1 April 2014. Recovery of costs incurred after the start of the CPP period is addressed separately from claw-back.

B56 Consistent with the IMs, major categories of earthquake-related costs and losses are recovered from consumers in addition to claw-back.

B56.1 The approach to RAB, which has no *ex ante* approval or *ex post* prudency review, means all capex (once commissioned) is added to the RAB and can earn a return on and of capital once the CPP is set. Therefore, expenditure to mitigate the impacts of high impact, low probability events is recovered (though there may be a delay between the expenditure and its inclusion in the RAB for pricing purposes). So is any capital investment to repair, restore or improve services after a catastrophic event (with the exception of depreciation of, and return on, an asset post-commissioning but before the CPP takes effect, if claw-back is not applied).

---

288 See paragraph B26 above.

B56.2 The approach under a CPP to assets that are damaged beyond repair, but which are not disposed of by a regulated supplier, is to allow the supplier to continue to earn a return on and of capital on such assets (from the time the CPP is set). The cost of these assets remains in the RAB and (to the extent that the damage exceeds insurance proceeds) will effectively be recovered through future prices. Orion estimates that the value of assets that are damaged beyond repair due to the Canterbury earthquakes to be between $3m and $10m.[289]

B56.3 The impact of reduced demand in future periods (ie, after the claw-back period) is borne by consumers. Prices are reset at the beginning of the CPP period to reflect the impact of reduced demand. Therefore, this impact will be met by consumers after the CPP reset.

B57 These other forms of recovery are relevant when considering the approach to claw-back, to ensure that the overall approach to risk allocation between Orion and its consumers is consistent with the Part 4 purpose.

B58 The two remaining categories of earthquake-related costs and losses, which Orion is not already compensated for separately from claw-back, are additional net costs and lower-than-forecast revenues between the first earthquake and September 2010 and the start of the CPP period on 1 April 2014. These two categories are addressed in turn below.

Our evaluation of past additional net costs and lower-than-forecast revenues that should be recovered from future consumers

Orion should be allowed to claw-back additional net costs of $34.8m

B59 Our view is that Orion should be allowed to claw-back $34.8m of additional net costs due to the earthquakes over the period from the first earthquake in September 2010 to 31 March 2014. This amount is calculated by:[290]

B59.1 estimating the present value of additional net costs actually incurred by Orion for the 2011, 2012 and 2013 financial years; and

289 The draft decision referred to a GAAP value of damaged and destroyed network assets of approximately $71.3m before tax. Orion submitted that "this value is not comparable to RAB" and the correct value "is likely to fall somewhere between $3m and $10m". Orion "Orion CPP proposal: Draft decision" (20 September 2013), p.30-31.

290 See paragraphs B112 to B142 below for further discussion on how the claw-back amount has been calculated.

B59.2 making a downwards adjustment to the present value of Orion's proposed additional net costs for the 2014 financial year (consistent with our approach to the evaluation of forecast expenditure during the CPP period).

B60 On balance, we consider that it is appropriate to allow claw-back of $34.8m for additional net costs in the context of Orion's CPP proposal.

B60.1 Allowing claw-back for additional net costs incurred after a catastrophic event helps strengthen regulated suppliers' incentives to invest in restoring their networks (consistent with s52A(1)(a)).[291] This approach acknowledges that the supplier will be focused on restoring its network in the aftermath of a catastrophic event, without necessarily being able to maintain the same level of planning and oversight as it would for business as usual expenditure.

B60.2 Additional expenditure following a catastrophic event may be vital to meet demand in a region. Consumers benefit from this expenditure because it helps mitigate any deterioration in quality of service (consistent with s52A(1)(b)).

B61 We also note that the IMs reasons paper signalled that claw-back "may be applied" for "prudent additional costs incurred in responding to the [catastrophic] event".[292]

B62 Although the supplier may be best placed to manage the risk of damage to its network, we consider it is in the long-term benefit of consumers to provide compensation for additional net costs caused by a catastrophic event. This will ensure that the supplier is incentivised to focus on restoring its network following a catastrophic event, which is ultimately to the long-term benefit of consumers.

B63 Our decision to allow claw-back for additional net costs of $34.8m was made in the specific circumstances of Orion's CPP proposal. For example, we note that Orion appears to have acted prudently in the past to help manage the risks associated with

---

291 MEUG submitted that "even if the costs are not recovered, except where truly exceptional circumstances exists (for example if the supplier was in financial distress) a rational supplier will still 'get on with the job of investing to repair and restore' in order to minimise loss and retain customers" (see Major Electricity Users' Group "Orion CPP – Draft determination – Cross submissions", (11 October 2013), p.5.). We agree that suppliers will have incentives to restore their networks in the absence of claw-back. However, providing claw-back for additional net costs caused by a catastrophic event will likely *strengthen* these existing incentives.

292 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 8.4.27. The IMs reasons paper only referred to "prudent additional costs incurred in responding to the event prior to the CPP taking effect", and not reduced revenues due to a catastrophic event. Reduced revenues are clearly not an additional cost *incurred in responding* to the event.

earthquakes. Any future claw-back requests from Orion or other EDBs will be considered on their merits.

Orion should not be allowed to claw-back lower-than-forecast revenues

B64 Our view is that no claw-back should be allowed for past lower-than-forecast revenues resulting from the earthquakes.[293] Our key reasons for this decision are as follows.

B64.1 Orion was operating under a price cap, not a revenue cap. A price cap implies that demand risk is borne by suppliers. This is appropriate as suppliers (and their investors) are generally better placed than consumers to manage demand risk.[294]

B64.2 Diversification minimises the impact of demand risk. To well-diversified investors, only the demand risks that affect all investments matter. The demand risks specific to individual investments can be expected to offset one another and are therefore of little consequence to a well-diversified investor.[295]

B64.3 Although it is difficult to quantify the extent to which Orion received any *ex ante* compensation for demand risk associated with catastrophic events, there was no agreement suggesting that consumers would compensate Orion for lower-than-forecast revenues *ex post*.[296] Therefore, given that Orion was operating under a price cap, it is reasonable to expect Orion to bear demand risk associated with catastrophic events (within the current DPP regulatory period).

B64.4 Sharing the financial impact of the Canterbury earthquakes between Orion and consumers is consistent with the Part 4 purpose statement. Given that we have allowed claw-back for additional net costs incurred due to the earthquakes, lower-than-forecast revenues between the September 2010 earthquake and the start of the CPP period is the only category of

---

293 Our estimate of the value of past lower-than-forecast revenues is $59.4m. See footnote 329 below.

294 Commerce Commission "Input Methodologies (EDBs & GPBs) Reasons Paper" (22 December 2010), paragraph 8.3.8. Also see paragraphs B22 to B37 above.

295 From the perspective of a diversified investor, demand risk due to the Canterbury earthquakes was relatively minor. See paragraphs B73 to B97 below for further discussion.

296 Prior to the CPP, Orion's prices were not set using a building blocks approach. Orion's DPP was based on a roll-over of historic prices originally set under the previous Part 4A thresholds regime. Therefore, it is not clear how much *ex ante* compensation Orion has received for catastrophic risk.

earthquake-related costs and losses that consumers will not bear under our decision.[297]

B65 Further, we note that we made no prior commitment that claw-back of lower-than-forecast revenues would be allowed following a catastrophic event.

B66 Although our decision provides no claw-back for past lower-than-forecast revenues due to the earthquakes, demand risk is still shared between Orion (including its investors) and consumers.

B66.1 As described earlier, claw-back only relates to the period from September 2010 until the start of the CPP period. No compensation will be provided for lower-than-forecast revenues over this period, so demand risk is borne by Orion until the CPP takes effect.[298]

B66.2 Prices are reset at the beginning of the CPP period (1 April 2014) to reflect reduced demand. Therefore, the impact of reduced demand due to the Canterbury earthquakes is borne by consumers from the beginning of the CPP period.

B67 Providing *ex post* compensation for additional net costs incurred, but not lower-than-forecast revenues, will still provide incentives for Orion to take positive steps to mitigate the risks of damage to its assets (from a forward-looking perspective). This is because, all other things being equal, the more network assets that are damaged or destroyed by a catastrophic event, the greater the reduction in revenues is likely to be.[299]

Overall sharing of the financial impact of the earthquakes between Orion and consumers

B68 We estimate that the pre-tax financial impact of the Canterbury earthquakes on Orion is approximately $104.2m. This amount includes:

---

297 As described in paragraphs B54 to B58 above, major categories of earthquake-related costs are recovered from consumers in addition to claw-back.

298 In response to the draft decision, Castalia, on behalf of Vector, submitted that the revenue lost in the time period between the earthquakes and the price reset is due to regulatory risk, so the shortfall in revenue should be recovered from future prices. We disagree. The ability to reset prices at the start of a new regulatory control period is a required feature of the regulatory regime that is not typically available to suppliers in workably competitive markets. Therefore, in our view it is incorrect to characterise pre-reset demand risk as regulatory risk. See Castalia Strategic Advisors “Draft Decision on Orion CPP Application”, in Vector Limited Submission to the Commerce Commission on Orion CPP Draft Decision (20 September 2013), Appendix 1, p.1.

299 If an electricity distribution network suffers significant damage due to a catastrophic event, demand will go unmet (and therefore, revenues will be reduced) until the relevant parts of the network are repaired or replaced.

B68.1 the 2014 present value of additional net costs during the claw-back period of $34.8m;

B68.2 the 2014 present value of lower-than-forecast revenues during the claw-back period of $59.4m; and

B68.3 the value of assets that Orion has advised were damaged beyond repair (but not disposed of) due to the earthquakes of up to $10m.[300]

B69 Of this amount, $59.4m (57%) will be borne by Orion and up to $44.8m (43%) will be borne by consumers under our decision.[301] Overall, we think this represents an appropriate level of sharing between Orion and consumers.[302]

B70 It should be noted, however, that the sharing described above overstates the proportion of the financial impact of the earthquakes borne by Orion. This is because Orion will also be compensated for additional costs and lower-than-forecast revenues from the earthquakes in future periods (ie beyond the claw-back period) through the CPP price reset and in future DPPs. The impact of reduced demand due to the earthquakes is effectively borne by consumers once the CPP takes effect.

Spreading claw-back over time to minimise price shocks to consumers

B71 We have spread the claw-back amount of $34.8 million over the five year CPP period when generating our price-quality path for Orion.

B72 We consider that spreading claw-back over a five year period (rather than the 10 year period proposed by Orion) appropriately manages price shocks to consumers. Given the reduced amount of claw-back relative to Orion's CPP proposal ($34.8m compared to $86.3m), we do not think it is necessary to extend recovery of claw-back beyond the CPP period.

300 See paragraph B56.2 above. Orion estimates that "…the maximum value for damaged assets within the RAB is likely to fall somewhere between $3m and $10m". Orion "Orion CPP proposal: Draft decision" (20 September 2013), p.31.

301 In the draft decision we estimated the pre-tax financial impact of the Canterbury earthquakes on Orion as $148.3m. Under our draft decision, $48.4m (33%) would have been borne by Orion and $99.9m (67%) would have been borne by consumers. The revised figures in this final decision reflect a reduction in the value of assets that were damaged beyond repair from $71.3m (before tax) to between $3m and $10m. The values of additional net costs and lower-than-forecast revenues for the claw-back period have also been updated. See Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision" (14 August 2013), paragraph C129.

302 Our estimate of the after-tax effect on Orion equates to approximately one annual average Orion dividend or approximately 7% of Orion's total value of equity.

The impact of the Canterbury earthquakes on a diversified investor

B73 In deciding whether to allow claw-back for lower-than-forecast revenues, we have considered the impact of the Canterbury earthquakes from the perspective of a diversified investor. In the draft decision we explained that the impact on demand of depopulation resulting from a catastrophic event is not necessarily asymmetric because:[303]

B73.1 the probability of a region gaining population as a result of a catastrophic event elsewhere will be similar to the risk of losing population due to a local event; and

B73.2 by diversifying across different regions, an investor is able to costlessly insure itself against relocation risk.

B74 We have undertaken further analysis to assess the impact on demand of the Canterbury earthquakes for a diversified investor. As an illustrative example we have considered the impact on a hypothetical investor that diversifies its risk by investing in all New Zealand electricity distributors, including Orion. We note that this example is based on an investor that is diversified across EDBs only. In reality a well-diversified investor would have investments across different sectors, asset classes and countries.

B75 For the purpose of our analysis we have assumed that the investor is interested in two performance measures, the level of return and the level of risk. We measure the level of return as the number of connections (ie, the number of installation control points) and the volume of energy entering the distribution networks from grid exit points.[304] We measure the level of risk by examining the variation over time in the number of connections and the volume of energy.

We are unable to conclude whether the impact of the earthquakes on demand was symmetric or asymmetric

B76 We first assess whether the impact of the earthquakes on the number of connections and the amount of energy delivered was symmetric or asymmetric, from the perspective of a diversified investor.

---

303 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), paragraphs C96-C105.

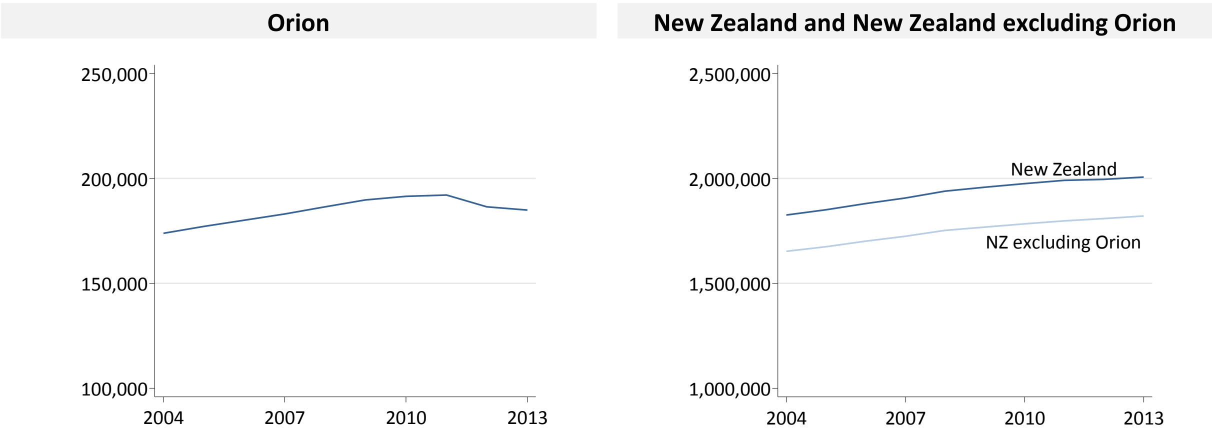
304 Our analysis abstracts from other factors that also affect the level of return, such as the level of expenditure. This does not affect the extent to which our analysis provides valid insights. We consider other relevant factors affecting the return to Orion, including costs, separately in this decision. Other distributors may also need to incur higher costs to accommodate any additional demand (as for example noted by Unison). Such changes in expenditure as a part of a potential rebalancing in demand are consistent with outcomes in workably competitive markets. Unison "Submission on the Commission’s Draft Decision on Orion’s Customised Price-Quality Path" (20 September 2013), p.13.

B77 Figure B1 below examines trends in the number of connections for Orion, New Zealand distributors overall and New Zealand distributors excluding Orion.

B77.1 The chart on the left shows a clear decrease in the number of connections on Orion's network after the earthquakes.

B77.2 The chart on the right, which is drawn on a comparable scale to the chart on the left, reveals no clear insight regarding the impact of the earthquakes on the number of connections in New Zealand. The lines depicting the number of connections in New Zealand (including and excluding Orion respectively) are approximately parallel and show a similar trend that is flattening after 2009.[305]

Figure B1 - Trends in the number of connections



Note: The charts are drawn using monthly data and have non-zero vertical axes.
Source: Electricity Authority's centralised dataset and Commerce Commission calculations.

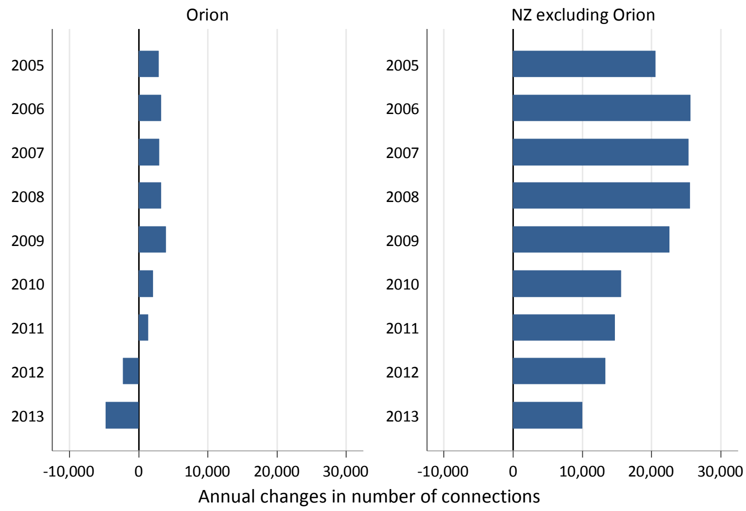
B78 Figure B2 below examines the degree of symmetry of changes in the number of connections more closely. It compares annual changes in the number of connections on Orion's network to changes for New Zealand excluding Orion. For a demand change to be symmetric (within a given year), an observed change in the left part of the chart would need to be related to a similar but opposite change in the right part of the chart.

B79 It is not possible to conclude from Figure B2 whether changes in connections on Orion's network in a given year are related to changes in New Zealand outside Orion's network. For example, in 2012 and 2013 the number of connections on

[305] Orion contributed to somewhat higher growth in connections for New Zealand overall before the earthquakes.

Orion's network fell, while the number of connections increased for networks elsewhere in New Zealand. However, it is not possible to tell whether the increase in connections for the rest of New Zealand is due to consumers relocating away from Orion's network.

Figure B2 - Annual changes in the number of connections



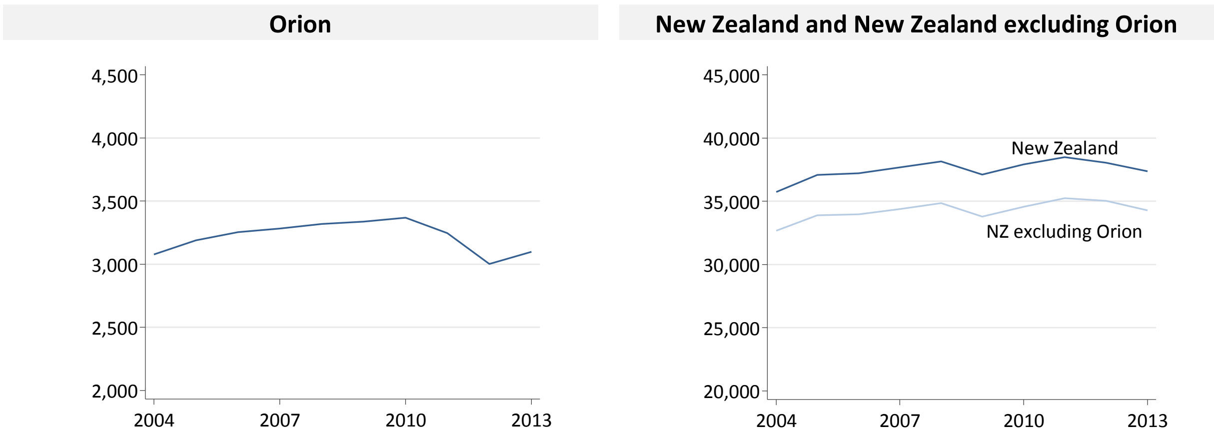
Note: Annual changes relate to March years.
Source: Electricity Authority's centralised dataset and Commerce Commission calculations.

B80 We also undertook similar analysis for our other measure of demand, the volume of electric energy entering distribution networks from grid exit points. Figure B3 below shows trends in the volume of energy on Orion's network, New Zealand networks overall and New Zealand networks excluding Orion.

B80.1 The chart on the left shows a decrease in volume of energy entering Orion's network after the earthquakes, followed by an increase in the year ending March 2013.

B80.2 The chart on the right, which is drawn on a comparable scale to the chart on the left, reveals no clear impact of the earthquakes on energy volumes in New Zealand. The lines depicting the energy volumes in New Zealand (including and excluding Orion respectively) show a similar trend and are approximately parallel. Demand dropped from 2008 to 2009, recovered until 2011 and then fell again.

Figure B3 - Energy entering distribution networks from GXPs

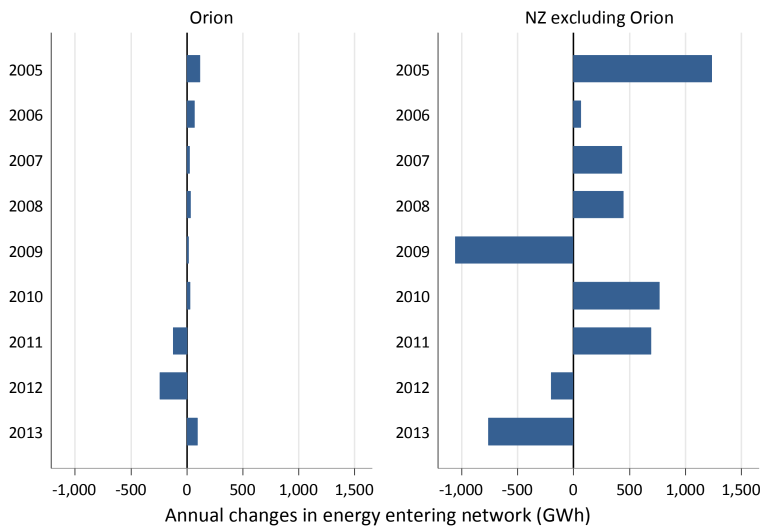


Note: Figures relate to March years. The charts have non-zero vertical axes.
Source: Electricity Authority's centralised dataset and Commerce Commission calculations.

B81 Figure B4 below examines the degree of symmetry in changes in energy entering the network more closely. It compares annual changes in energy entering Orion's network to changes for New Zealand excluding Orion. For a demand change to be symmetric (within a given year) an observed change in a given year in the left part of the chart would need to be related to a similar but opposite change in the right part of the chart.

B82 It is not possible to conclude from Figure B4 whether changes in energy entering Orion's network in a given year are related to changes in New Zealand outside Orion's network. For example, in 2012 energy volumes entering Orion's network and networks elsewhere in New Zealand both fell. In 2013, energy delivered by the Orion network increased, but fell elsewhere in New Zealand.

Figure B4 - Annual changes in the energy entering distribution networks



Note: Figures relate to March years.
Source: Electricity Authority's centralised dataset and Commerce Commission calculations.

B83 Overall we are unable to conclude whether the impact on demand due to the Canterbury earthquakes was symmetric or asymmetric.

B83.1 Based on our analysis of the number of connections, we are unable to conclude whether the demand reduction was symmetric (ie, the drop in the number of connections fell for Orion but increased by a similar amount for other NZ distributors) or asymmetric (ie connections lost on Orion's network did not move to other distributors' networks).[306]

B83.2 We are also unable to conclude whether the demand reduction measured as the volume of energy entering the network was symmetric (ie, the drop in energy volumes fell for Orion but increased by a similar amount for other NZ distributors) or asymmetric (ie lost energy volumes on Orion's network did not move to other distributors' networks).

B84 Our analysis contrasts with Orion's finding that "the only reasonable conclusion … is that demand reduction in the Orion network following Canterbury earthquakes was asymmetric".[307]

B85 The analysis above is focused solely on the impact of the Canterbury earthquakes on demand for New Zealand EDBs. However, it is important to note that businesses are exposed to positive and negative demand shocks from a range of different sources (which have an offsetting effect). For example, in the draft decision we noted that:[308]

B85.1 hosting a major event such as the 2011 Rugby World Cup, which resulted in increased demand for a vast range of goods and services throughout New Zealand, is an example of a positive event; and

B85.2 electricity demand can also be affected by factors such as a cold winter that are independent of, or negatively correlated with, economic fluctuations.

306 The growth in connections for New Zealand networks started to slow after 2008. To draw further conclusions on the composition of this change would require a more detailed analysis that explores the impact of various factors on this trend.

307 Orion based this conclusion on a graph showing two data series, the number of connections in Orion's network area and the number of connections in the rest of New Zealand.
Orion "Orion CPP proposal: Draft decision" (20 September 2013), pp.29-30.

308 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), paragraphs C102 and C103.

B86 Other positive and negative demand shocks are relevant when considering the overall level of demand risk faced by a diversified investor.

A diversified investor would not require additional compensation for demand risk associated with the Canterbury earthquakes

B87 We have measured the level of risk for a diversified investor by examining the variation in the number of connections and the volume of energy over time. The focus of our analysis was to establish whether the risk a diversified investor was exposed to increased as a result of the earthquakes, and was unusual compared to historical levels. As a simple illustrative measure of risk we used one standard deviation above and below the average growth in demand before the earthquakes.[309]

B88 Figure B5 below shows annual percentage changes in the number of connections on Orion's network, all New Zealand distribution networks and New Zealand networks excluding Orion. The chart on the left shows that the change in the number of connections on Orion's network following the earthquakes was very large compared to changes in demand between 2005 and 2010.

B89 The chart on the right shows that the variation in demand for New Zealand overall (ie the level of risk our hypothetical diversified investor was exposed to) was similar to that for New Zealand excluding Orion. In 2012 the line depicting the growth in demand excluding Orion moved by less than the line that includes Orion's demand. This suggests some increase in variation as a result of the earthquakes.

B90 However, this movement was not unusual compared to movements in previous years, which were caused by factors other than the earthquakes. To illustrate this we include grey lines that delineate the data range corresponding to one standard deviation around the series average before the September 2010 earthquake.

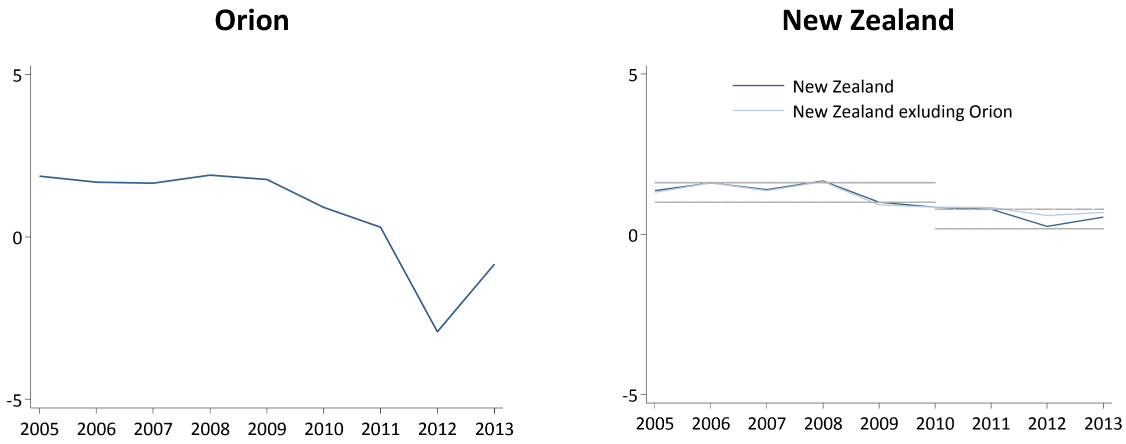
B91 The average growth in connections slowed down after 2009, for reasons which appear to be unrelated to the earthquakes. This is demonstrated by the downwards trend in the annual change in the number of connections for New Zealand excluding Orion. We therefore used a different average growth assumption for the period after March 2010.[310]

---

[309] We used the period before the earthquakes to calculate the standard deviation to avoid it potentially being unduly influenced by the earthquakes.

[310] We used the same standard deviation to indicate the range of movement in demand (ie, that for the whole of New Zealand between March 2005 and March 2010).

Figure B5 - Annual change in the number connections (%)



Note: Figures relate to annual changes compared to the previous year.
Source: Electricity Authority's centralised dataset and Commerce Commission calculations.

B92 Figure B6 below repeats the analysis above for our other measure of demand. This figure shows annual percentage changes in the volume of energy entering Orion's network, all New Zealand distribution networks and New Zealand networks excluding Orion. The chart on the left shows that there was a large drop in volume of energy entering Orion's network after the earthquakes, followed by a large increase, and that this change was very large compared to changes in demand between 2005 and 2010.[311]

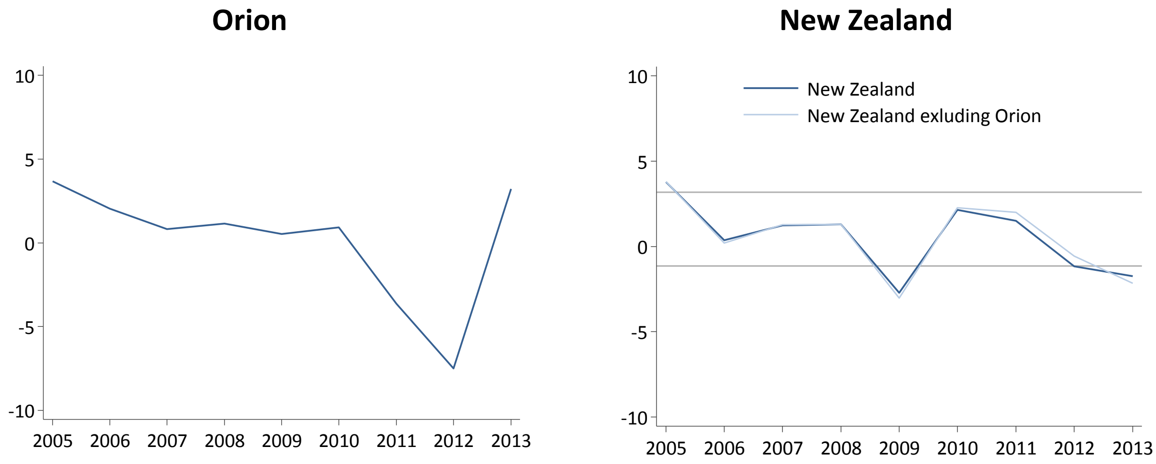
B93 The chart on the right shows that the variation in demand for New Zealand overall (ie the level of risk our hypothetical diversified investor was exposed to) was very similar to that for New Zealand excluding Orion over the whole period. After the earthquakes the range in demand growth for New Zealand overall was somewhat lower than that for New Zealand excluding energy entering Orion's network.

B94 Comparison with the grey lines (indicating the data range corresponding to one standard deviation around the series average before the September 2010 earthquake) confirms that the movement in demand was not unusual compared to that in previous years, which were caused by factors other than the earthquakes.

---

[311] Orion noted that energy volumes on its network in the year to January 2012 were 10.3% lower than volumes in the year to January 2011, and that this is outside the normally anticipated range. Orion stated that a variance of 10% is more than 5 standard deviations. We agree that the changes in energy volumes after the earthquakes were outside the normal range for Orion's network. However, what matters to a diversified investor is demand risk across an investment portfolio, not that of a particular element of the portfolio. Orion "Orion CPP proposal: Draft decision" (20 September 2013), pp.29-30.

Figure B6 - Annual change in energy entering the network (%)



Note: Annual figures relate to March years data.
Source: Electricity Authority's centralised dataset and Commerce Commission calculations.

B95 Our analysis of demand risk illustrates that the demand volatility for a hypothetical investor diversified across all New Zealand electricity distributors did not substantially increase following the earthquakes. Any increase was not unusual compared to that observed before the earthquakes (ie, between 2005 and 2010).

B96 Overall, we consider that the impact of the earthquakes on the level of return and risk to our hypothetical diversified investor was insignificant. [312] The relatively minor impact on demand for New Zealand EDBs overall supports our view that a diversified investor would not require additional compensation (either *ex ante* or *ex post*) for demand risk associated with the Canterbury earthquakes.

B97 Importantly, by investing in a single sector (electricity distribution), our hypothetical investor spreads its risk less than it could have by diversifying across a wider range of sectors.[313] Diversifying more widely would further reduce the impact of demand risk associated with the Canterbury earthquakes.

---

312 MEUG submitted that "asymmetric Type I risks are low for a diversified investor not because there is upside, or balanced gain, but because the chances of the risk maturing for a particular business / investment is so low, that the average cost is minimal across a fully diversified portfolio. It is that average amount, faced by a diversified investor that which should be accounted for. MEUG submits that the Commission has already done that." Major Electricity Users' Group "Orion CPP – Draft Determination – Cross Submissions" (11 October 2013), p.5.

313 See paragraph B74 above.

Responses to submissions regarding claw-back

Diversification and Orion's ownership structure

B98 Some submissions have argued that diversification is not possible given EDB ownership structures in New Zealand. For example, Powerco submitted:[314]

> We also note that even if an EDB or GDB agreed with the Commission's logic, it would require other EDBs or GDBs to be available for purchase. Due to the consumer trust structures in New Zealand, this is not the case. The Commission is penalising Orion for failing to take an action it is unlikely it could have taken.

B99 Similarly, Orion submitted:[315]

> Even if our current shareholders had diversified (sold down their shareholdings and/or made wider investments in other sectors) our shareholders would still be our shareholders, whoever they are, and we would have suffered the same consequences irrespective of our shareholding.

B100 In our view, Orion's actual form of ownership is irrelevant. The impact of ownership structure should fall on owners, not on consumers. In a workably competitive market, the choice of ownership structure would not impact on outcomes for consumers.

B101 Our approach to claw-back recognises that it would not be appropriate to impose additional costs on consumers where an EDB's owners have chosen an ownership arrangement that precludes diversification. We do not think consumers should pay higher prices if Orion's owners choose not to diversify their investment.

B102 Further, we do not set company-specific WACCs under the cost of capital IMs. For example, WACC does not vary based on suppliers' ownership structures. In the IMs reasons paper we noted that:[316]

> …a key outcome from workably competitive markets is that it is the market's view of the cost of capital that matters, not the cost of capital specific to one producer, or a producer's view of the cost of capital. Further, where investors choose to have a diversified portfolio of returns, they care principally about how an investment contributes to the risk of their overall portfolio, rather than the specific risks which affect a single investment (as that can be diversified away).

---

314 Powerco "Powerco submission to Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft Decision" (20 September 2013), pp.2-3.

315 Orion "Orion CPP proposal draft decision: Cross submission" (11 October 2013), p.16.

316 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 6.2.7.

B103 Previous submissions have argued along similar lines. For example, although Orion is community owned, Orion's expert advisor (PwC) has previously argued that it should be treated the same as any other commercial entity:[317]

> While Orion is community owned, an important assumption in this report is that, for regulatory purposes, Orion should be treated the same as any other commercial entity. That is, it is assumed that it faces the same disciplines and pressures on returns as privately owned and financed entities. This assumption is based on my understanding that Orion is intended to operate as a fully commercial entity, and also based on my view that this would enhance the efficiency of service provision…

B104 PwC made this assumption when arguing that Orion should be allowed to claw-back all the additional costs and lower-than-forecast revenues associated with the earthquakes (rather than the Council having to bear any shortfall in revenues due to the earthquakes). It would not be consistent for us to ignore Orion's ownership structure in one context, but not the other.

Public private partnerships and risk allocation in workably competitive markets

B105 In the draft decision we noted that evidence presented by Castalia (on behalf of Vector) regarding public private partnerships (PPPs) supports a "high degree of explicit risk sharing" for catastrophic events.[318] Advice from Professor Yarrow also highlighted limitations when considering PPPs as empirical examples of workably competitive markets.[319]

B106 In response, Castalia reinforced its view that "…PPP contracts—despite having a single buyer—is the best example of 'workable competition' to use as a relevant benchmark for regulating infrastructure businesses like Orion". Castalia challenged our conclusion that evidence from PPPs supports "an equal allocation of risks" associated with catastrophic events.[320]

B107 However, in the draft decision we noted that evidence from PPPs supports *sharing* of risks associated with catastrophic events.[321] We did not state that PPPs support an *equal* allocation of risks (as suggested by Castalia).

B108 Castalia's own June 2013 submission concluded that "…empirical evidence from the actual workably competitive markets for long-lived infrastructure shows there is a high degree of explicit risk sharing between the public and private parties for

317 PwC "Long-term incidence of cost recovery following a catastrophic event" (17 December 2012), p.7.

318 See Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision” (14 August 2013), paragraphs C68-C74.

319 Professor Yarrow "Further advice on claw-back" (4 August 2013), pp. 3-4.

320 Castalia "Draft Decision on Orion CPP Application" (20 September 2013), pp.8-9.

321 Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision” (14 August 2013), paragraph C71.

catastrophic events".[322] Further, Castalia's most recent submission also notes that "…there is inevitably some risk sharing…" where an event (such as an earthquake) leads to the partial destruction of infrastructure.[323]

B109 The evidence from Castalia regarding PPPs supports the view that Orion should not be allowed to claw-back *all* the additional costs and lower-than-forecast revenues associated with the Canterbury earthquakes. Rather, some degree of risk sharing between Orion and consumers is appropriate.

International regulatory decisions regarding catastrophic events

B110 In its CPP proposal, Orion referred to several overseas regulatory decisions regarding the treatment of catastrophic events. Orion stated:[324]

> While requirements in other jurisdictions need to be taken in context, we have observed regulatory decisions and provisions in Australia and the UK where price controls are able to be revisited within a regulatory period in response to unforeseen events, on the grounds of higher costs and lower demand. Examples of relevant decisions and provisions are included as Appendix 10. While informative, approaches in other jurisdictions do need to be treated with caution, and our application is made in the context of New Zealand's regulatory framework including Part 4 of the Commerce Act and the IMs.

B111 We agree with Orion's observation that overseas regulatory decisions need to be treated with caution due to the different regulatory frameworks that apply. However, we note that our expert advisor, Professor Yarrow, has stated that our decision regarding claw-back "… is a reasonable one, and within the range of approaches taken in other jurisdictions…".[325]

Calculation of claw-back for additional net costs of $34.8m

Orion's estimate of the split between claw-back for additional net costs and lower-than-forecast revenues

B112 To assist us make our draft decision, we asked Orion to estimate the portion of its proposed claw-back amount attributable to additional net costs and the portion attributable to lower-than-forecast revenues. We suggested that an appropriate methodology would be to divide the proposed claw-back amount into additional net

---

322 Castalia "Orion CPP Application: Submission on Professor Yarrow's Expert Advice" (26 June 2013), in Vector Limited "Release of expert reports for public consultation" (27 June 2013), Appendix 1, p.2.

323 Castalia Strategic Advisors "Draft Decision on Orion CPP Application", in Vector Limited *Submission to the Commerce Commission on Orion CPP Draft Decision* (20 September 2013), Appendix 1, p.9.

324 Orion "Proposal for a customised price-quality path" (19 February 2013), p.162.

325 Professor Yarrow "Responses to further questions concerning the Orion CPP Final Decision" (22 November 2013), p.6.

costs and lower-than-forecast revenues using estimated MAR values for the claw-back period.[326]

B113 Orion suggested calculating these estimates by comparing the present value of three different paths:

B113.1 the first path calculates the BBAR for each year from 2011 to 2014, representing the total costs borne (or expected to be borne) by Orion in each of these financial years;

B113.2 the second path is the projected DPP price path maximum revenues from 2011 to 2014 that would likely have applied absent the earthquakes. For 2011 and 2012 the projected path was calculated by rolling over Orion's 2010 revenues under its 2010 DPP price-quality path. The difference from our suggested approach was that for 2013 and 2014 the projected path was calculated from an estimate of the path that would have applied to Orion under the 2010-2015 DPP reset;[327] and

B113.3 the third path is the actual or forecast regulated revenues for 2011 to 2014, with 2011 to 2012 based on actual revenues and 2013 to 2014 based on forecast revenues.

B114 As part of the calculation process described above, Orion identified that its net costs for 2013 had been under-estimated. This was a result of including a regulated revenue amount as a credit in the BBAR. Correcting this item results in an adjusted present value of Orion's proposed claw-back amount of $87.8m (rather than $86.3m).

B115 Of this total proposed claw-back amount of $87.8m, Orion's calculations indicated that approximately $44.8m would be due to additional net costs and approximately $43.0m would be due to lower-than-forecast revenues.[328] The approach to estimating the split between additional net costs and lower-than-forecast revenues is as follows.

---

326 We suggested using estimated MAR values that would have applied under Orion's DPP price-quality path which applied at the time of the earthquakes. Although we suggested a methodology for the calculations, we invited Orion to comment on whether it could identify a more appropriate approach. Orion's calculations assumed that the 2010-2015 DPP reset would have applied to its maximum price path revenues for 2013 and 2014.

327 As described in paragraphs B125 to B131 below, we disagree with Orion's approach for 2013 and 2014 (which is based on an estimate of the price path that would have applied if Orion was included in the November 2012 DPP reset).

328 We note that Orion undertook this calculation without prejudice to its view that it should be compensated for the entire $87.8m.

B115.1 The 'additional net costs' component of claw-back is calculated by comparing the first path, the 2014 present value of BBAR for the claw-back period (as at 1 April 2014), with the second path, the present value of Orion's DPP price path maximum revenues for the claw-back period. The present value of BBAR in excess of the present value of the price path revenues is assumed to represent additional costs incurred in response to the earthquakes, over and above the level of costs that would have been recovered under the second path. Orion estimated this to be $44.8m.

B115.2 The 'lower-than-forecast revenues' component of claw-back is calculated by comparing the second path, the present value of Orion's DPP price path maximum revenues for the claw-back period with the third path, the present value of actual and forecast revenues for this period. The amount by which the present value of Orion's DPP price path maximum revenues exceeds the present value of actual and forecast revenues over this period is assumed to represent the value of lower-than-forecast revenues resulting from the earthquakes. Orion estimated this to be $43.0m.[329]

Our draft decision provided claw-back for additional net costs of $28.6m

B116 In the draft decision we allowed claw-back for additional net costs of $28.6m. No claw-back was provided for lower-than-forecast revenues.

B117 We used Orion's estimate of additional net costs due to the Canterbury earthquakes ($44.8m) as the starting point when determining the amount of claw-back.[330] The claw-back amount in the draft decision was calculated by:

B117.1 updating Orion's forecast expenditure for 2013 to reflect some new data on actual expenditure for 2013; this reduced the additional net costs for 2013 by $9.4m (2014 present value);[331] and

B117.2 making a downwards adjustment to Orion's proposed additional net costs for the 2014 financial year (consistent with our approach to evaluation of forecast expenditure during the CPP period and the advice we received

---

329 Our estimate of the present value of the lower than forecast revenues (calculated on a basis consistent with our final decision on additional net costs) is $59.4m. This takes into account lower than forecast 2013 actual revenues, use of the projection of Orion's 2010 DPP price path and use of the DPP cost of debt to calculate the 2014 present value.

330 See paragraph B115 above.

331 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), paragraph C121.1.

from Strata for our draft decision).[332] This reduced the additional net costs for 2014 by $6.6m (2014 present value).[333]

B118 Overall, our adjustments to 2013 and 2014 expenditure in the draft decision reduced additional net costs by $16.2m, from $44.8m to $28.6m (2014 present value).

How we have calculated the final claw-back amount of $34.8m

B119 The final amount of claw-back for additional net costs is $34.8m (rather than $28.6m). The adjustments we have made when calculating claw-back of $34.8m are:

B119.1 we further updated Orion’s forecast expenditure for 2013 and 2014 based on additional information provided by Orion and additional advice we received from Strata (following receipt of submissions);

B119.2 we used a projection of Orion's 2010 DPP price path when calculating claw-back of additional net costs for 2013 and 2014 instead of assuming that the 2010-2015 DPP reset would have applied to Orion;

B119.3 we used the pre-tax cost of debt (7.93%) as the interest rate to calculate the 2014 present value of claw-back, rather than the WACC (8.77%); and

B119.4 we included the 2014 present value of under-recovered pass through costs for 2011 and 2012 in the claw-back amount.

We have further updated Orion's forecast expenditure for 2013 and 2014

B120 When calculating claw-back for additional net costs in the draft decision we:

B120.1 updated Orion's forecast expenditure for 2013 to reflect extra data provided by Orion on actual expenditure for 2013; and

B120.2 made a downwards adjustment to Orion’s proposed additional net costs for the 2014 financial year (consistent with our approach to evaluation of forecast expenditure during the CPP period and the advice we received from Strata for our draft decision).[334]

B121 We have since received data on actual expenditure for 2013 from Orion following public release of its audited 2013 financial accounts and submission of its 2013

---

332 Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013).

333 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), paragraph C121.2.

334 Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013).

Annual Information Disclosure. This has allowed us to more accurately calculate the 2013 BBAR. Apart from aligning forecast expenditure with the actual amounts spent, we have not undertaken an *ex post* prudency review of the expenditure.

B122 We have accepted Orion’s actual expenditure for 2011 to 2013 when calculating claw-back for additional net costs. We have seen no evidence to suggest that expenditure incurred by Orion in these years warrants closer attention.[335]

B123 We have also received a further report from Strata (in response to submissions) on the expenditure proposals for 2015-2019.[336] We have applied Strata's revised recommendations for expenditure allowances in 2015-2019 when finalising the forecast 2014 BBAR. In our view, Orion’s forecast expenditures for 2014 in the CPP proposal are higher than necessary to meet the quality standards we have set. We consider that the final adjustments recommended by Strata for 2015-2019 are the appropriate basis for adjusting the 2014 forecasts.

B124 These further updates resulted in a net increase in claw-back of $10.0m (2014 present value) from our draft decision. This is comprised of the effects of:

B124.1 reduced and deferred 2013 expenditure (reduces BBAR and reduces claw-back);

B124.2 the increase in forecast 2014 expenditure as a result of amounts forecast to be carried over from 2013 (increases BBAR and increases claw-back);

B124.3 the increase in forecast 2014 expenditure as a result of the revised recommendations on replacement capex by Strata for 2015-2019 (increases BBAR and increases claw-back); and

B124.4 the reduction in the 'total revaluation' item in the BBAR formula as a result of the replacement of forecast CPI values in the BBAR for the pre-CPP period with actual CPI values (increases BBAR and increases claw-back).

---

335 In response to the draft decision, ANZCO submitted allowing claw-back for additional net costs without a prudency review "…sends a concerning message that network companies can spend without consequence as part of disaster response" (see ANZCO Foods Limited “Submission on the customised price-quality path (CPP) proposal from Orion” (28 May 2013), p.2). We have not conducted a prudency review of past expenditure in Orion's case because we have not seen any evidence suggesting that such a review is warranted.

336 Strata Energy Consulting Limited "Technical Advisor Report: Further advice on the Orion New Zealand Ltd CPP Proposal and submissions" (19 November 2013).

We have used Orion's 2010 DPP when calculating claw-back for additional net costs

B125 As described in paragraphs B112 to B115 above, Orion's DPP price path has been used to estimate the split of its proposed claw-back amount between additional net costs and lower-than-forecast revenues. The claw-back amount in the draft decision was calculated based on data supplied by Orion, which assumed that the 2010-2015 DPP reset applied for 2013 and 2014.

B126 Orion argued that the 2010-2015 DPP reset should be assumed to apply when calculating claw-back because:[337]

> There is no reason our DPP would not have been reset along with other non-exempt EDBs in the absence of the earthquakes.
>
> Accordingly we have used the models published alongside the final 2012 DPP EDB reset determination to estimate our reset DPP price path. We have used the same formulae and logic as used for the other non-exempt businesses, with specific input values for Orion where appropriate. Most of these are derived from FY10 data which is included in our CPP models (ie: it is IM compliant), our 2010 AMP and the DPP forecasting models. For the purpose of this analysis we have not included the insurance opex uplift provided to other non-exempt EDBs which was (at least) partially in response to the Canterbury earthquake impacts on the NZ insurance market.

B127 Although we adopted Orion's approach in the draft, we signalled that we may consider using the existing 2010 DPP price path for the entire claw-back period in the final decision:[338]

> For the purpose of this draft decision, we have adopted the approach proposed by Orion. We will consider further whether this is the correct approach before making our final decision. Once we have received submissions, we may consider other approaches which could include, for example, projecting the existing DPP prices out to 2013 and 2014.

B128 No submissions were received on this issue in response to the draft decision.

B129 Given that Orion's actual prices for the entire claw-back period (September 2010 to 31 March 2014) are based on its 2010 DPP price path, use of a price path based on the 2010-2015 DPP reset would overstate the additional costs caused by the earthquakes (and understate the lower-than-forecast revenues) relative to the price path that actually applied to Orion.[339] Therefore, in our view the 2010 DPP is the

---

[337] Orion "Orion CPP Proposal: Additional information submitted in response to Commerce Commission information requirement (Q#023 - Claw-back)" (25 July 2013), pp.2-3.

[338] Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), p.110, footnote 238.

[339] Orion was excluded from the 2010-2015 DPP reset because it was intending to submit its CPP proposal.

appropriate price path to use when distinguishing between the additional costs and lower-than-forecast revenues caused by the earthquakes.[340]

B130 We note that several potential issues could have arisen if the 2010-2015 DPP reset approach (rather than the 2010 DPP approach) was used to calculate the additional net costs incurred in responding to the earthquakes. These issues illustrate why it would not be appropriate to use the 2010-2015 DPP reset path when calculating the claw-back amount.

B130.1 If the present value of Orion's 2010-2015 DPP reset price path revenues was higher than the present value of BBAR for the claw-back period, this would have had the effect of eliminating all additional net costs.

B130.2 If the present value of Orion's 2010-2015 DPP reset price path revenues was lower than the present value of its actual revenues over the claw-back period, this would have eliminated all the lower-than-forecast revenues. However, Orion would have received claw-back for a portion of additional net costs that they were already compensated for through actual revenues earned under the 2010 DPP.

B131 Using the 2010 DPP instead of the 2010-2015 DPP reset reduces the claw-back amount calculated for the draft decision by approximately $11.3m (2014 present value).[341] This is comprised of:

B131.1 the difference between the two DPP approaches as applied to 2013 and 2014 (approximate $3.7m reduction in claw-back); and

B131.2 application of actual CPI values (as would apply under compliance with the 2010 DPP) rather than forecast CPI values (approximate $7.6m reduction in claw-back).

We have used the DPP pre-tax cost of debt to calculate the present value of claw-back

B132 In the draft decision, the claw-back amount was converted to a present value (as at 1 April 2014) by applying the 75th percentile DPP WACC of 8.77%.[342] However, we

---

340 We also note that section 52D of the Act defines claw-back with reference to any shortfall in revenues that occurred “under the prices previously charged by the supplier”. The prices previously charged by Orion were based on its 2010 DPP price path, not an estimate of the price path that would have applied to Orion under the 2010-2015 DPP reset.

341 The 2010 DPP price path revenues are calculated net of pass-through and recoverable costs, and rolled forward using CPI data as at November 2012 (incorporating the 2.5% uplift in GST) and an estimate of constant price revenue growth for the four year period from 2011 to 2014.

342 Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision” (14 August 2013), paragraph 5.32.

have reconsidered our view on the interest rate for calculating the present value of claw-back (for consistency with the 2010-2015 DPP reset).

B133 In the 2010-2015 DPP reset decision (released in November 2012) we used a pre-tax cost of debt (rather than the WACC) when calculating the present value of any claw-back amounts.[343] We stated that the pre-tax cost of debt provides "…an indication of the opportunity cost of funds to both suppliers and consumers". The 2010-2015 DPP reset decision also stated:[344]

> We have decided that the cost of debt is a more appropriate discount rate than the cost of capital for the following reasons. This is because the cost of capital reflects the cost of equity, which in turn reflects exposure to systematic risk. However, there is no systematic risk associated with the recovery of the claw-back amounts. Conversely, a risk free rate would also have been inappropriate as the amounts are not risk free, and a risk free rate does not reflect the opportunity cost of borrowing for suppliers and consumers.

B134 The logic for using the pre-tax cost of debt described in the 2010-2015 DPP reset decision also applies to claw-back under Orion's CPP proposal. Therefore, for consistency, we have used the pre-tax cost of debt of 7.93% when calculating the present value of the claw-back amount for Orion's CPP.[345]

B135 Using the pre-tax cost of debt of 7.93% instead of the DPP WACC of 8.77% only reduces the present value of the claw-back amount by approximately $16,000. This is because:

B135.1 claw-back for additional net costs is calculated as the difference between two paths. The first path is the present value of the BBAR over the claw-back period and the second path is the present value of Orion's projected DPP price path revenues for the claw-back period. The choice of interest rate impacts on the present value of both these paths with approximately equal effect; and

B135.2 a large proportion of the additional net costs due to the earthquakes were forecast to be incurred in the 2014 financial year. Additional net costs for

---

343 The 2010-2015 DPP reset applied claw-back to address the impact of a delay in implementing the reset (due to court action). Commerce Commission "Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), paragraphs 7.3-7.4.

344 Commerce Commission "Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors" (30 November 2012), p.148-149, paragraphs J27 and J30.

345 7.93% is the corresponding pre-tax cost of debt associated with Orion's DPP WACC of 8.77%. Commerce Commission "Determination of the Cost of Capital for Services Regulated under Part 4 of the Commerce Act 1986, Pursuant to Decisions 709, 710, 711, 712 and 713" (3 March 2011), page 9. The pre-tax cost of debt of 7.93% and DPP WACC of 8.77% are for the five year period beginning on 1 September 2009.

the 2014 financial year are unaffected by the rate used in the present value calculation.

Under-recovery of pass-through costs for 2011 and 2012

B136 In the draft decision we noted that a portion of Orion's past lower-than-forecast revenues in 2011 and 2012 relate to under-recovered pass-through costs.

B137 Under the IMs, Transpower transmission charges are recoverable costs that may be passed through in full to prices and are not subject to approval by the Commission.[346] Recoverable costs are netted off prices for determining compliance with the price-quality path.

B138 In our draft decision, we proposed allowing for these costs to be recovered as recoverable costs in the CPP period.[347] In Orion's submission, it clarified that the unrecovered costs provided for, related to all types of costs recognised as pass-through costs under its DPP, and not just transmission charges. On further reflection, we have decided to include these costs as a component of claw-back (instead of treating them as recoverable costs) as this is more consistent with the scope of the IM for recoverable costs that now applies to Orion under the CPP.[348]

B139 Our decision, based on Orion's estimates of the under-recovery of pass-through costs for 2011 and 2012, is that the value of claw-back for these amounts is $7.5m (2014 present value based on pre-tax cost of debt of 7.93%). We note that allowing claw-back for these under-recovered pass-through costs is a concession on our part; Orion only identified this under-recovery after submitting its CPP proposal.

B140 Including the under-recovery of pass-through costs in claw-back means that the $7.5m is spread over the entire CPP period. This will help minimise price shocks faced by consumers.[349]

We have used a net (rather than gross) approach to estimating the additional costs caused by the earthquakes

B141 The amount of claw-back for the additional costs caused by the Canterbury earthquakes ($34.8m) has been calculated on a 'net' (rather than 'gross') basis.

---

346 Commerce Commission "Electricity Distribution Services Input Methodologies Determination 2012" (15 November 2012), clause 3.1.3.

347 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision" (14 August 2013), paragraph C128.

348 Treating the under-recovery of pass-through costs as either recoverable costs or claw-back would be equivalent in present value terms.

349 In response to the draft decision, Orion argued that these costs should be spread over the five year CPP period to better manage the impact on prices. Orion "Orion CPP proposal: Draft decision" (20 September 2013), p.74.

B141.1 As described in paragraphs B112 to B115 above, the claw-back amount is calculated by comparing the 2014 present value of BBAR for the claw-back period, with the 2014 present value of Orion's projected DPP price path revenues for the claw-back period. The present value of BBAR in excess of the present value of the price path revenues represents the additional costs incurred in response to the earthquakes.[350]

B141.2 This approach effectively nets off any reduction in costs during the claw-back period (for example, due to deferral of planned expenditure or efficiency gains) and gives a credit for the receipt of insurance proceeds against increased costs incurred due to the earthquakes.

B142 In our view, a net approach is appropriate because expenditure incurred in responding to a catastrophic event is likely to be prioritised over planned expenditure. In these circumstances, it is reasonable for consumers to bear only the net increase in costs (as opposed to also compensating the supplier for planned expenditure which did not actually occur).[351] As noted in the Input Methodologies Reasons Paper (emphasis added):[352]

> A supplier may be able to identify costs that are associated with responding to an event but that does not mean that all of those costs should be passed through to consumers. For example, **it is reasonable to expect that where suppliers substitute planned operating or capital expenditure with expenditure required to respond to an event, consumers should not pay for the additional costs of responding to an event when overall costs do not increase by the 'incremental' amount**.

350 We have then also added the 2014 present value of the under-recovered pass-through costs. See paragraphs B136 to B140 above.

351 Under a gross approach, consumers would pay for both: (i) the additional costs incurred in responding to the catastrophic event and (ii) the level of expenditure implicitly provided for under the DPP, irrespective of whether the actual expenditure incurred (excluding the additional costs incurred in responding to the event) was more or less than the amount allowed for in the DPP.

352 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 8.4.17.

Attachment C: Treatment of future catastrophic events under the CPP

Purpose of this attachment

C1 This attachment addresses the approach to risk allocation for any future catastrophic events faced by Orion during the CPP period. Specifically, this attachment:

C1.1 summarises our decision that Orion will receive *ex post* compensation for additional net costs incurred in responding to any future catastrophic events during the CPP period, but receive no additional *ex ante* or *ex post* compensation for lower-than-forecast revenues;

C1.2 notes that Orion proposed no additional *ex ante* allowance for the risks of future catastrophic events during the CPP period, but instead adopted an *ex post* approach;

C1.3 outlines our view that the risks of future catastrophic events should be shared between Orion and consumers, including why this is consistent with the Part 4 purpose;

C1.4 explains the reasons for our view that Orion should receive *ex post* compensation for additional net costs incurred in responding to future catastrophic events during the CPP period, but receive no additional compensation for lower-than-forecast revenues;

C1.5 explains how *ex post* compensation for any additional net costs incurred due to a future catastrophic event will be implemented under a CPP re-opener; and

C1.6 provides further responses to submissions regarding the treatment of future catastrophic events received on the draft decision.

Summary of our approach to future catastrophic events

C2 Orion proposed that *ex post* compensation should be provided in response to any future catastrophic events that occur during the CPP period.[353] Orion's CPP proposal included no explicit additional *ex ante* allowance for the risks of future catastrophes.

C3 Consistent with our approach to claw-back following the Canterbury earthquakes, we consider that the risks of future catastrophic events should be shared between Orion and consumers. Risk sharing is consistent with the Part 4 purpose.[354]

---

[353] Orion "Proposal for a customised price-quality path" (19 February 2013), p.28.

C4 Our view is that *ex post* compensation should be provided for additional net (opex and capex) costs incurred due to any catastrophic events that occur during the CPP period. In these extraordinary circumstances (ie another catastrophic event occurring shortly after the Canterbury earthquakes), providing *ex post* compensation for additional net costs will strengthen the existing incentives that Orion has to restore supply on its network. Consumers will benefit from expenditure to repair Orion's network because it will help ensure that demand is able to be met.

C5 However, no additional compensation (either *ex ante* or *ex post*) will be provided for lower-than-forecast revenues due to future catastrophic events. This is because:

C5.1 investor diversification minimises the impact of demand risk. To well-diversified investors, only the demand risks that affect all investments matter. The demand risks specific to one investment can be expected to be offset by those of other investments, and unexpected positive and negative shocks may be experienced by individual businesses over time. Such shocks are therefore of little consequence to a diversified investor; and

C5.2 minimal or no compensation above the WACC is required by a diversified investor to take on the demand risk specific to an individual business. The practical effect of using the 75th percentile WACC (determined under the IMs) is to provide a buffer against the financial impact of catastrophic events.[355]

C6 Although our decision will not provide any additional compensation for lower-than-forecast revenues associated with future catastrophic events, demand risk will still be shared between Orion and consumers. Orion will bear demand risk associated with a future catastrophic event until the re-opened CPP takes effect. The impact of lower-than-forecast revenues will be borne by consumers post-reset.

C7 This attachment addresses the approach for future catastrophic events that Orion may face during the CPP period only. The approach to future catastrophic events for other EDBs (and Orion after the CPP period) will be addressed in the next DPP reset or in response to any further CPP applications we receive.

---

354 See paragraphs B22 to B37 above and paragraphs C12 to C14 below.

355 We note that compensation for the risks of catastrophic events captured within the 75th percentile IM-based WACC is not relevant to Orion's claw-back proposal resulting from the Canterbury earthquakes (see Attachment B). This is because prior to the CPP, Orion's price path was not set using a building blocks approach. Orion's DPP was based on a roll-over of historic prices originally set under the previous Part 4A thresholds regime.

Orion's CPP proposal includes no additional allowance for future catastrophic events

C8 Orion's CPP proposal included no additional *ex ante* allowance for the risks of future catastrophic events that may occur during the CPP period. Rather, Orion proposed an *ex post* approach to potential future catastrophes. Orion's proposal stated:[356]

> We have made no allowance in our CPP proposal for unanticipated costs associated with possible future catastrophic events. We have no self insurance allowance in our opex forecast. If such events occur within the CPP regulatory period, we are able to reopen the CPP to address the impacts at that time. Thus we propose an ex-post approach to the recovery of the consequences of potential future catastrophes, as anticipated in the IMs. This is the same as the ex post claw-back allowances that this CPP proposal addresses for the consequences of the 2010 and 2011 Canterbury earthquakes.

C9 In response to the draft decision, Orion submitted that the proposed price path increases its risk during the CPP period, but includes no allowance for this heightened risk:[357]

> Accordingly, our assumption that no self insurance allowance was included in our CPP proposal because we anticipated that any further catastrophic event risk would be addressed via the CPP reopener provisions, including claw-back, is now no longer valid.
>
> We therefore submit that the Commission must either:
>
> - include a specific allowance for uninsurable Type 1 risks in the CPP price path or
> - confirm that cost recovery for these uninsurable risks will be catered for *ex post*. As we state above, we believe this option best aligns with the interests of suppliers and consumers.

C10 Other submissions also argued that greater certainty regarding the treatment of future catastrophic events is required. For example, Vector submitted that "…it needs to be absolutely clear to all parties in advance how cost recovery will be apportioned between *ex ante* and *ex post* funding".[358] Similarly, Powerco submitted:[359]

> Powerco recommends that the Commission clarify its approach going forward to the recovery of costs and lost revenues following a catastrophic event. Until there is certainty, Powerco considers that the Commission is obliged to compensate regulated suppliers

---

356 Orion “Proposal for a customised price-quality path” (19 February 2013), p.28.

357 Orion "Orion CPP proposal: Draft decision" (20 September 2013), p.38.

358 Vector "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013), p.13.

359 Powerco "Powerco submission to Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft Decision" (20 September 2013), p.3.

adequately in the DPP for what appears to be the default position – that we have to manage our network as if we are bearing all catastrophic risks.

C11 This attachment discusses the approach to risk allocation for future catastrophic events that Orion may face during the CPP period. The approach to future catastrophic events for other EDBs (and Orion after the CPP period) will be addressed in the next DPP reset or in response to any further CPP applications we receive.

Risk sharing between Orion and consumers is consistent with the Part 4 purpose

C12 Risk allocation between suppliers and consumers is an important consideration when applying the Part 4 purpose in the Orion CPP context – most parties have discussed risk allocation in their submissions. As well as impacting on investment (limb (a) of the purpose statement), the degree of risk sharing can have important implications for a supplier's incentives to improve efficiency (limb (b)) and ultimately share the benefits of efficiency gains with consumers (limb (c)).

C13 Our view is that the risks of catastrophic events should be shared between Orion and consumers. This is consistent with the Part 4 purpose statement and our approach to claw-back for the previous Canterbury earthquakes (see Attachment B).

C14 As described in paragraphs B22 to B37 above, in our view it would be inconsistent with the Part 4 purpose for consumers to bear *all* the costs and risks of catastrophic events. Imposing the entire financial impact of catastrophic events on consumers is not consistent with the Part 4 purpose because:

C14.1 it is unusual for consumers to bear *all* the costs and risks of catastrophic events in a workably competitive market. Workably competitive markets tend to manage risks efficiently, by allocating identified risks to the party best placed to manage them;

C14.2 regulated suppliers (and their investors) are generally better placed to manage the risks of catastrophic events than consumers; and

C14.3 allocating all the costs and risks of catastrophic events to consumers would reduce the incentives for suppliers to manage these risks efficiently (ie create a moral hazard).

Our approach to the treatment of future catastrophic events under the CPP

Orion's CPP is able to be reconsidered in response to a future catastrophic event

C15 Orion's CPP is able to be reconsidered in response to a catastrophic event. The IMs provide for CPPs to be reconsidered during the regulatory period if we consider, or the EDB in question satisfies us (upon application), that a catastrophic event has occurred.[360]

C16 The threshold for reconsidering a CPP in response to a catastrophic event is relatively small. The cost of remediating the event (net of any insurance or compensatory entitlements) must have an impact of at least 1% on revenue over the remaining years of the CPP period.[361]

C17 When amending a CPP due to a catastrophic event, the IMs require that we must not amend the:[362]

C17.1 price path more than is reasonably necessary to take account of the change in costs (net of any insurance or compensatory entitlements) arising from the event; or

C17.2 quality standards more than is reasonably necessary to take into account any necessary change in quality arising from the event.

C18 Further, in determining the extent of the amendment, we are required to consider the extent to which the EDB has demonstrated that it has reviewed its capital and operating expenditure plans for the remainder of the CPP regulatory period (and made such substitutions as is possible without adversely affecting its ability to meet its quality standards).[363]

C19 We expect the process for reconsidering a CPP to be completed relatively quickly. There are no specific rules or requirements relating to an EDB's application for a CPP re-opener. Therefore, it is likely that applications could be prepared relatively quickly by the EDB (and evaluated relatively promptly by the Commission), with the revised price-quality path taking effect as soon as practicable after the event occurs.

Ex post *compensation will be provided for prudent additional costs, but no additional compensation will be provided for demand risk*

C20 Our view is that *ex post* compensation should be provided for prudent additional net costs incurred due to future catastrophic events that may occur during the CPP period. However, no additional compensation (either *ex ante* or *ex post*) is to be provided for lower-than-forecast revenues due to future catastrophic events.

---

360 Catastrophic event is defined in clause 5.6.1 of the IMs determination for EDBs. *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.6.1(d)(iv).

361 By contrast we note that Ofwat recently released a determination (in response to a request from Thames Water) which applies a 10% threshold. Ofwat "Final determination of Thames Water's IDoK application" (November 2013).

362 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.6.5(3).

363 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.6.5(4).

C21 We consider it appropriate to provide *ex post* compensation for additional net costs incurred in responding to future catastrophic events because:[364]

C21.1 allowing *ex post* compensation for additional net costs helps strengthen incentives for the supplier to focus on restoring its network in the aftermath of a catastrophic event (without necessarily maintaining the same level of planning and oversight as it would for business as usual expenditure); and

C21.2 additional expenditure following a catastrophic event may be vital to meet demand in a region. Consumers benefit from this expenditure because it helps mitigate any deterioration in quality of service.

C22 Our approach will share the financial impact of future catastrophic events between Orion and consumers, which is consistent with the Part 4 purpose. Orion will bear demand risk associated with any future catastrophic events until the re-opened CPP takes effect.

Reasons for providing no additional compensation for demand risk

C23 We have provided no additional *ex ante* allowance or *ex post* compensation for demand risk for the following reasons.

C23.1 Orion only bears demand risk until the next reset. After the reset, prices are able to be adjusted to reflect reduced demand. Therefore, demand risk is effectively shared because the impact of lower-than-forecast revenues is borne by consumers post-reset.

C23.2 The materiality of demand risk faced by Orion (and its investors) during the current regulatory period is likely to be relatively minor, because:

C23.2.1 to well-diversified investors, only the risks that affect all investments matter; the risks specific to just one investment can be expected to offset one another and are therefore of little consequence. This means that minimal or no compensation above the WACC is required by a diversified investor to take on the demand risk specific to an individual EDB;[365] and

C23.2.2 available data indicates that there was little impact on demand for New Zealand EDBs overall following the Canterbury

364 See paragraph B60 above for further discussion.

365 WACC provides compensation for the normal systematic demand risks. The only possible case for any additional compensation would relate to an asymmetry in demand risk that was introduced by the effect of catastrophes on demand, which was sufficiently large that it is not covered by the 75th percentile WACC estimate.

earthquakes.[366] Given that these earthquakes are amongst the worst natural disasters in New Zealand's history, we expect this situation to be typical for most catastrophic events that New Zealand EDBs are likely to face.

C23.3 Under the IMs the 75th percentile WACC is used for setting price-quality paths. Although the IMs did not "make any adjustments to the cost of capital for asymmetric risk"[367] some allowance for the risks of catastrophic events is inherent in the IM-based WACC.[368] While we did not decide to apply the 75th percentile because of catastrophic risk, a consequence is that suppliers receive a return which is above the best estimate of a normal return (ie, the mid-point WACC).[369]

The WACC provides a buffer against the financial impact of catastrophic events

C24 In response to the draft decision, several submissions argued that the cost of capital IMs do not include an allowance for the costs of catastrophic events.[370] For example, Vector submitted:[371]

> It is clear that the Commission has settled on the 75th percentile WACC as being the appropriate estimate of regulatory WACC to balance the asymmetric risks of over-charging consumers and of underinvestment by EDBs as a result of WACC estimation error.
>
> More specifically, the use of a 75th percentile WACC point estimate is to address volatility in estimates of the WACC parameters by adjusting for potential errors in the selection and estimation of input parameters. It was not intended to address other issues such as catastrophic event risk in the way the Commission suggests.

---

366 See paragraphs B73 to B97 above. Since investors may look at historic information to inform their future decisions, the results from this analysis are relevant when considering whether an investor requires compensation for demand risk going forward.

367 Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph H12.1.

368 See paragraphs C24 to C33 below.

369 We note that compensation for the risks of catastrophic events captured within the 75th percentile IM-based WACC is not relevant to Orion's claw-back proposal resulting from the Canterbury earthquakes (see Attachment B). This is because prior to the CPP, Orion's price path was not set using a building blocks approach. Orion's DPP was based on a roll-over of historic prices originally set under the previous Part 4A thresholds regime.

370 See, for example, Auckland Airport "Customised price-quality path for Orion New Zealand Limited: Submission on Commerce Commission draft decision" (20 September 2013), pp.6-7; Unison "Submission on the Commission's draft decision on Orion's customised price-quality path" (20 September 2013), pp.11-12; WELL "Draft decision on Orion's CPP proposal" (20 September 2013), p. 2; and Electricity Networks Association "Comment on the Draft Decision on Orion's CPP Application and Implications for the Future Implementation of Part 4" (20 September 2013), p.7.

371 Vector "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013), p.16.

C25 We disagree with these submissions. Although the IMs do not make any explicit adjustments to the cost of capital (or provide additional cash flow allowance) for asymmetric risk, the practical effect of using the 75th percentile WACC is to provide a buffer for catastrophic events.

C26 The IMs apply the 75th percentile WACC estimate for DPPs and CPPs. The 75th percentile WACC provides regulated suppliers with a return which is above the best estimate of a normal rate of return (ie, the mid-point WACC).

C27 In our view, the 75th percentile WACC provides sufficient incentives for future investment, without needing to provide any additional compensation for the risks of catastrophic events. For Orion's CPP, using the 75th percentile WACC of 6.92% instead of the mid-point WACC of 6.21% increases MAR (before tax) by approximately $47.5m over the CPP period.

C28 Further, the IMs specified three reasons for using the 75th percentile WACC:[372]

- C28.1 the Part 4 purpose (the long-term benefit of consumers);
- C28.2 the uncertainty in estimating the true cost of capital; and
- C28.3 that in workably competitive markets not all risks can be passed on to the consumer in the form of higher prices. Instead, in workably competitive markets firms have to manage some risks.

C29 The third of these reasons for using the 75th percentile is highly relevant in the current context (when considering compensation for the risks of catastrophic events). As described earlier, it is important that suppliers face some of the costs of catastrophic events to ensure that they are incentivised to manage risks efficiently.

C30 Under Orion's CPP, only pre-reset demand risk associated with future catastrophic events will be borne by Orion.[373] In respect of demand risk and the cost of capital IM, we note that:

- C30.1 as investors can diversify away non-systematic risk, they should only be compensated for systematic risk (for example, shocks to GDP);
- C30.2 CAPM provides compensation for systematic risk via the tax adjusted market risk premium (TAMRP) scaled by the asset beta. It follows that the

[372] Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph H11.65.

[373] We will provide *ex post* compensation for additional net costs incurred due to any future catastrophic events during the CPP period. Further, consumers will bear the impact of reduced demand due to a catastrophic event after the re-opened price path takes effect.

‘normal range’ of shocks to GDP have already been compensated for within the WACC; and

C30.3 to the extent that demand risk is associated with the ‘normal range’ of shocks to GDP, this component of demand risk can be excluded from further consideration as it has already been compensated for.

C31 Catastrophic events are expected to have a relatively minor impact when compared to the observed cost of capital. In the draft decision we stated:[374]

> Available evidence is that the cost of natural disasters should have a relatively small impact on the observed cost of capital (ie, likely to be less than 0.1% of WACC). For example, the Global Assessment Report on Disaster Risk Reduction estimate the total expected global loss from earthquakes and cyclone wind damage is around US$180 billion per annum. Relative to the market value of capital provided to listed companies, this implies a cost of 0.30% per dollar of capital per annum. However, as some of the cost of loss would be insured, and since the annual global loss from earthquakes and cyclone wind damage would be shared among government, households, and private businesses as well as listed businesses, the impact on the cost of capital from earthquakes and wind damage would be substantially less than 0.30% per annum (and almost certainly much less than 0.1% per annum). By contrast, the 75th percentile estimate of WACC increases the cost of capital by greater than 0.7% per annum.

C32 Although the total expected global loss of US$180 billion per annum referred to in the quote above relates to earthquakes and cyclone wind damage only, this still provides a useful indication of the possible impact of natural disasters on the cost of capital.[375]

C33 On balance we consider that no additional compensation (either *ex ante* or *ex post*) is required for demand risk associated with catastrophic events during the CPP period. We are satisfied that Orion will continue to have incentives to invest in the absence of any additional compensation, consistent with limb (a) of the Part 4 purpose statement.

Ex post compensation for additional net costs will be provided as recoverable costs for Orion’s CPP period

C34 We have the following in principle views in relation to additional costs that arise in the period between a catastrophic event and a reconsideration taking effect under Orion’s CPP:

---

374 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft decision" (14 August 2013), p.141, footnote 322.

375 The 2013 Global Assessment Report on Disaster Risk Reduction notes that the US$180 billion does not include the costs of local disasters from floods, landslides, fires and storms or the cost of business interruption. United Nations "Global Assessment Report on Disaster Risk Reduction" (2013), p. v.

C34.1 *ex post* compensation should be provided for prudent additional net costs incurred due to future catastrophic events that may occur during the CPP period (see paragraphs C20 to C22 above); and

C34.2 Orion should be able to recover any claw-back amounts (determined at the start of the CPP regulatory period), recoverable costs, and pass-through costs that Orion had sought to recover through its prices during the CPP period but did not actually recover. This is consistent with our decision to allow Orion to claw-back unrecovered pass-through costs (see paragraphs B136 to B140).

C35 There is a risk that these additional costs for Orion may not be able to be recovered in a CPP reconsideration under the current framework. We therefore have agreed an IM variation with Orion that allows these additional costs to be recovered as a recoverable cost.

C36 This solution is intended to apply to Orion's CPP only. We will engage with interested parties in 2014 as to whether a broader solution is required for reconsiderations under future CPPs.

Responses to submissions regarding treatment of future catastrophic events

Demand forecasts and compensation for the risks of catastrophic events

C37 In its cross-submission on the draft decision, MEUG argued that EDBs have received some *ex ante* compensation for the risks of catastrophic events under the DPP. MEUG submitted:[376]

> Expected opex used for determining DPP was calculated using econometric equations correlating demand forecasts, network scale, partial productivity factors and input factor forecast costs. To the extent historic actual costs for all EDBs used in this exercise included some costs to manage earthquake related costs then opex levels in the generic DPP building blocks incorporate such costs. MEUG is not aware of any reason why provision for earthquake precautionary expenditure would have been excluded.

C38 The approach to forecasting opex under the 2010-2015 DPP reset (released in November 2012) is not directly relevant in Orion's circumstances. Orion was excluded from the DPP reset because it was about to apply for a CPP.

C39 However, in response to MEUG's submission, we have considered whether Orion may receive some allowance for the risks of catastrophic events through demand forecasts for the CPP period. If demand forecasts take into account the expected

---

376 Major Electricity Users' Group "Orion CPP – Draft Determination – Cross Submissions" (11 October 2013), pp.6-7.

impact of future catastrophic events, then suppliers will be compensated for demand risk. This is because the constant price revenue calculations used to determine how the price path grows over the regulatory period will be lower than if the expected impact of future catastrophic events was excluded.

C40 Demand forecasts that are based on historic evidence are likely to capture the time averaged effect of catastrophic events in the past, along with the sum of all of the positive and negative shocks that have affected outcomes in the past. Using historic data to forecast future demand should therefore incorporate some of the risk of future catastrophic events (as well as the forecasts of constant revenue growth), thus providing compensation for the risks of catastrophic events in the future price path. However, we note that the expected impact of catastrophic risk on demand forecasts is likely to be small relative to the overall uncertainties associated with such forecasts.

C41 In Orion's case, it is not clear to us whether the demand forecasts for Orion's CPP period incorporate the expected impact of future catastrophic events. Therefore, we have not placed any weight on potential compensation that is included within the demand forecasts in this decision.

C42 However, we note that Orion's CPP applies relatively optimistic household growth projections, based on the Greater Christchurch Urban Development Strategy "quick recovery" scenario.[377] These household growth projections are used when forecasting the weighted average growth in quantities for the CPP period.[378]

377 Market Economics “Greater Christchurch household scenarios 2011-2041: Final report” (March 2012).
378 Forecasts of weighted average growth in quantities for the CPP period are discussed in Attachment O.

Attachment D: Major projects

Purpose of this attachment

D1 This attachment discusses the allowance for forecast capital expenditure on major projects in Orion's network.

Summary of our final decision

D2 We consider that Orion's proposed expenditure of $97.5 million on major capex projects in the CPP period exceeds the amount required to meet the expenditure objective.[379]

D3 Instead, we have allowed $49.4 million of capital expenditure for major projects, an amount which we consider, based on expert advice, is appropriate to meet the expenditure objective.

What Orion proposed

D4 Orion proposed capex of $97.5 million on major projects spread over the five years of the CPP period.[380] This covered 20 projects, including five focused on the urban area of Christchurch (known as CPP1 to CPP5) and a range of projects in the rural areas of Orion's network (known as CPP6 to CPP20).

Our draft decision

D5 Given the shortcomings in Orion's proposal, our approach to determine opex and capex forecasts was to more critically examine the expenditure forecasts in Orion's proposal, we had to undertake a project-by-project review in order to determine the total level of expenditure on major projects appropriate for the CPP period.[381]

D6 For the draft decision this project-by-project analysis was undertaken by expert consultants, and using our own experienced staff members. Specifically:

D6.1 Partna and Strata assessed projects CPP1 and CPP2;[382] and

---

379 The expenditure objective is set out in the Input Methodologies (EDBs & GPBs) Reasons Paper (22 December 2010) paragraph 9.4.1d, pp.226-227, and is discussed in regard to Orion's proposal in Chapter 2.

380 In 2013 dollar constant prices.

381 The shortcomings in Orion’s proposal are discussed in Chapter 2, at paragraphs 2.38-2.41. Our approach to determining our opex and capex allowances is discussed in Chapter 3, at paragraphs 3.4-3.8.

382 Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013). Partna Consulting Group "Findings on the Orion CPP Proposal - Urban major projects North (CPP1) and Dallington (CPP2)" (June 2013).

D6.2 Commission staff assessed the remaining projects, projects CPP3 to CPP20.[383] This was then peer-reviewed by Strata.[384]

D7 This resulted in a draft decision to allow $37.1 million of expenditure on major projects.[385]

Submissions on our draft decision

D8 Submissions on our draft decision raised a number of issues on the expenditure for major projects allowed in the draft decision. For example:

D8.1 submissions discussed a number of aspects of quality, including the appropriate quality standards for Orion, what conclusions can be drawn from consumer consultation, and the importance of resilience;

D8.2 the demand for electricity lines services in Orion's area, and the uncertainty over whether and when major load demands will materialise;

D8.3 the trade-off between price and reliability, and how much expenditure is required to meet or manage the expected demand for services, given the reliability target; and

D8.4 a submitter questioned whether it was appropriate for the Commission to substitute its own analysis of the appropriate opex and capex forecast in place of Orion's view.[386]

D9 Orion responded to our project-by-project analysis for the draft decision and submitted a revised estimate of the level of expenditure for major projects.[387] Orion submitted that its revised amount would have increased major projects expenditure, and increased the MAR by $12 million over five years, relative to our draft decision.[388] We note that the revised allowance requested by Orion was less than Orion had included in its CPP proposal.

[383] Commerce Commission, "Setting the 2014-2019 customised price-quality path for Orion New Zealand Ltd - Draft Decision" (14 August 2013), paragraphs D63 to D147.

[384] Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013), pp. 16-21.

[385] Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision" (14 August 2013), Table D1.

[386] Our response to this point is covered in Chapter 2, at paragraph 2.48.

[387] Orion "Orion CPP proposal: Draft Decision" (20 September 2013), pp.42-53.

[388] Orion "Orion CPP proposal: Draft Decision" (20 September 2013), p. 53.

Our final decision

D10 In order to make the final decision on the allowance for major projects expenditure, we reviewed all submissions and cross-submissions on our draft decision. We commissioned:

D10.1 Strata to provide further advice on technical aspects of Orion's opex and capex in its CPP proposal, taking into account the feedback provided in submissions and cross-submissions on expenditure and quality, particularly those which relate to the major projects and replacement capex;[389]

D10.2 Partna to review issues raised by submissions raised in relation to Orion's urban major projects (projects CPP1 and CPP2); and

D10.3 Strata to peer-review Partna's analysis of projects CPP1 and CPP2.

D11 In particular, we:

D11.1 identified the key themes emerging from submissions with our experts;

D11.2 agreed the scope of the work Strata and Partna would undertake and planned together with them to ensure that the key themes relating to the expenditure forecasts in submissions were addressed;[390]

D11.3 identified where, based on our review of submissions, we considered that a change to the draft decision might be appropriate.[391] For the draft decision we analysed projects CPP3 to CPP20 ourselves and asked Strata to peer-review our analysis, but for the report used in our final decision, Strata was instructed to review all of the major projects;

D11.4 agreed with Strata and Partna the approach they would undertake in their work. For example, we agreed the criteria that should be used when evaluating the various major projects, and reinforced that the expenditure objective was a key criterion and that any other criteria used by the experts

---

389 Strata's report covers all major projects except CPP1, which was reviewed by Partna, and projects CPP2, CPP5, and CPP 18 which proposed no expenditure during the 2015-2019 CPP period.

390 See Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.10-18 and Partna Consulting Group "Response to submissions - Urban Major Projects - North" (November 2013), p.3. Note that for our draft decision we analysed projects CPP3 to CPP20 and Strata peer reviewed the results of our analysis. For our final decision we requested Strata to instead review all major projects.

391 For example, with Partna we identified that an allowance may be required to meet supply security requirements to Rawhiti. See Partna Consulting Group "Response to submissions - Urban Major Projects - North" (November 2013), p.8.

in preparing their advice should be consistent with the expenditure objective;[392]

D11.5 discussed their analysis and the conclusions Strata and Partna reached;

D11.6 reviewed and provided comment on the additional written advice from Strata and Partna, which reflected a consideration of submissions and cross-submissions made on the draft decision and the advisor's draft reports; and

D11.7 considered whether to accept the advice and whether we had any differences of view on any aspect of those reports.

D12 Strata and Partna have provided us with additional reports which we have released with this decision and which are available on our website.[393] These reports discuss the issues raised in submissions, including those outlined above, and should be read in conjunction with this reasons paper.

D13 Following our consideration of Strata’s and Partna's final reports, we have accepted Strata’s and Partna's approach, analysis and recommendation on the allowance for expenditure on major projects. The final recommendation from our advisors for expenditure on major projects is higher than that proposed in the draft decision.[394] Neither we, nor our advisors, are persuaded by submissions or cross-submissions on our draft decision that any other changes to the allowance for expenditure on major projects in the draft decision are required.[395]

D14 Consistent with our draft decision we have concluded Orion should prioritise projects within the CPP period that are required to meet demand, while maintaining the current levels of security of supply, over projects which are required to meet more onerous planning and security of supply standards or to increase resilience or facilitate the roll out of the 66kV subtransmission network (and which, for the most part, can be deferred to beyond the CPP period without affecting the reliability performance).

[392] Strata Energy Consulting Limited “Further advice on the Orion New Zealand CPP Proposal and submissions” (19 November 2013), at pp.4-5.

[393] Strata Energy Consulting Limited “Further advice on the Orion New Zealand CPP Proposal and submissions” (19 November 2013). Partna Consulting Group “Response to submissions - Urban Major Projects - North” (November 2013).

[394] This is summarised in paragraphs D19 to D21 below.

[395] For our advisor's views on the additional information provided by Orion in its submission, see: Strata Energy Consulting Limited “Further advice on the Orion New Zealand CPP Proposal and submissions” (19 November 2013), pp.7-8. Partna Consulting Group “Response to submissions - Urban Major Projects - North” (November 2013), p.3.

D15 Prioritising projects in this manner is necessary to meet the expenditure objective. In its report for the draft decision Strata notes a number of benefits from slowing down implementation of some of the major projects proposed by Orion. Strata advises this prioritisation will:[396]

- provide more time for demand growth patterns to more clearly emerge, allowing greater visibility of the benefits of alternative options to Orion's proposed development plan;
- free up resources to deliver higher priority projects within the expenditure plan;
- obtain the time value of money benefits derived from deferring expenditure;
- avoid the need to increase project management and project delivery resources;
- allow expenditure to be moved outside the period when contracting labour costs will be particularly high; and
- lessen the likelihood of mistakes from rushed design, construction and commissioning activity.

The counter-argument is that a slower rate of build will prolong the period within which targeted security and resilience objectives are not met and increase the likelihood of service interruptions. In respect of this, we consider that:

- this dilemma is representative of the trade-offs that resource-constrained asset managers routinely make – appropriately, it requires that managers prioritise resources to the highest value alternatives; and
- even if Orion's rate of build was slower, Orion's consumers would still receive a safe and reliable supply of electricity and Orion would have the capacity to meet the demand for new load and connections over the CPP period and beyond. Orion's consumers would not receive a supply of electricity less reliable than that of other typical New Zealand EDBs and it would improve more gradually over time.

D16 We agree with Strata's advice and recommendation.

Resilience and planning standards

D17 We note the discussion in Strata's final report on resilience and its relationship to planning standards.[397] Strata explains how Orion's proposal and submissions on the draft decision use the term resilience in two different ways. The first is to refer to attributes a well-performing network business should possess. Strata notes that

---

396 Strata "Technical Advisor Report on the Opinion on the Orion New Zealand Ltd CPP Proposal" (2 August 2013), p.14.

397 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.13-15.

these attributes can be delivered in a variety of ways including policies, processes and capabilities, and not just assets. The second is in relation to the security network planning objectives that Orion has adopted post-earthquake.[398]

D18 In Strata's view, Orion's objective of providing enough 66kV subtransmission links to the whole of Christchurch, should one of the Islington or Bromley GXPs fail, is a new planning criterion (ie, the second usage of the term resilience). Strata notes that seeking to meet system peak demand in a major city from losing supply from a primary urban GXP is beyond the limits of normal subtransmission planning, and that lowest cost solutions require careful co-ordination with Transpower.[399] We note also that the security of supply objective sought by Orion would achieve security of supply that was better than achieved elsewhere in New Zealand; and that, in the absence of strong support from consumers, such a change should not be reflected in the expenditure forecast for the CPP price-quality path, as the expenditure does not meet the expenditure objective.

Comparison of allowance for major projects

D19 Our final allowance for major projects expenditure relative to Orion's proposal, and our draft decision, is set out in Table D1.

Table D1 - Major projects expenditure during CPP period ($m)

	2015	2016	2017	2018	2019
Orion's Proposal	35.9	18.7	13.7	22.8	6.4
Draft Decision	18.6	2.0	0.3	16.0	0.2
Our Final Decision	26.2	2.0	3.4	15.7	2.2

Note: prices in 2013 dollar constant prices.

D20 The impact of this lower capex allowance is reflected in the inputs into the financial model (Attachment P) and in the setting of the price path (Chapter 4). It results in lower prices in the CPP period than proposed by Orion.

D21 Relative to our draft decision, the final allowance reflects the following changes:

398 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.13-14.

399 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.14-15.

D21.1 an allowance for efficiently supplying Rawhiti so as to meet Orion's N-1 security criteria if the temporary line was removed;[400] and

D21.2 the allowance for the equivalent of one out of four proposed rural zone substations in CPP7, CPP10, CPP11 and CPP15, based on a 25% probability of any one of those four proposed substations being needed.[401]

400 See Partna Consulting Group “Response to submissions - Urban Major Projects - North” (November 2013), p.8.

401 Strata Energy Consulting Limited “Further advice on the Orion New Zealand CPP Proposal and submissions” (19 November 2013), pp.23-24.

Attachment E: Replacement of network assets

Purpose of this attachment

E1 In this attachment we discuss our assessment of Orion's proposal in respect to the replacement of network assets and, in particular, the rationale for the adjustments we have made to arrive at the capex allowances which we use to set Orion's price path.

E2 In the draft decision we reviewed network maintenance opex and replacement capex together.[402] However, in this document maintenance opex is discussed separately in Attachment I.

Summary of our final decision

E3 We consider that Orion's proposed expenditure of $124.4 million on replacement expenditure in the CPP period exceeds the amount required to meet the expenditure objective.[403]

E4 Instead, we have allowed $92.5 million of capital expenditure on replacing network assets. We consider, based on expert advice from Strata, that this amount more properly reflects the needs of the network. Our decision is summarised in Table E1.

Table E1 - Orion's proposed expenditure to maintain and replace network assets ($m)

	2015	2016	2017	2018	2019
Orion's Proposal	24.1	25.8	25.9	23.7	24.9
Draft Decision	16.9	18.0	18.1	16.6	17.4
Orion's Submission	20.9	23.5	21.9	20.1	20.2
Our Final Decision	19.3	19.6	17.8	17.8	18.0

Note: prices in 2013 dollar constant prices.

What Orion proposed

E5 Orion proposed forecast capex using alternative categories, as permitted under the input methodologies.[404] Orion's proposal for replacement capex is shown in Table E1.

[402] Refer to Attachment E of the draft decision.

[403] The expenditure objective is set out in the Input Methodologies (EDBs & GPBs) Reasons Paper (22 December 2010) paragraph 9.4.1d.

Our draft decision

E6 In the draft reasons paper we stated that Orion's proposed expenditure for replacement capex was in excess of the amount required to meet the expenditure objective. This was because:

E6.1 Orion's proposed expenditure for replacement capex includes amounts to replace assets it has categorised as being in good or fair condition under its own asset health rating measures;

E6.2 Orion has the ability to make improved prudent decisions on asset management through the acquisition of improved asset condition assessment practices as its Condition Based Risk Management (CBRM) tool is rolled out;

E6.3 forecasts will be optimised as the replacement programme is implemented and reviewed as part of Orion's annual budgeting processes;

E6.4 the impact on network development projects has not been considered in conjunction with the replacement capex programme; and

E6.5 the need to manage workloads across the overall expenditure programme.[405]

E7 Our technical advisor, Strata, proposed a 30% reduction in Orion's forecast of replacement capex, comprising:

E7.1 a reduction of 20% of the proposed expenditure to account for asset condition ratings and average asset age; and

E7.2 a further reduction of 10% to account for cost estimation accuracy and prudent decision-making that would lead to the deferral of some replacements (for example, the impact of the development capex projects on the replacement capex programme).[406]

E8 Our draft decision accepted Strata's recommendation on the size of the reduction in forecast replacement capex, and the draft decision reflected that recommendation. The resulting adjustments to Orion's proposal used in the draft decision are summarised in Table E1.

---

[404] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.4.31.

[405] Commerce Commission, "Setting the 2014-2019 customised price-quality path for Orion New Zealand Ltd - Draft Decision (14 August 2013), paragraph E17.

[406] Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal Report to The Commerce Commission" (2 August 2013), p.39.

Submissions on our draft decision

E9 A number of submissions were made on our draft decision on the appropriate level of replacement capex, in particular from Orion, but also from ENA, Powerco and Vector.

E10 Orion disagreed with Strata's methodology, which it considered too mechanistic, and which Orion considered would not generate the lowest lifetime cost.[407] Orion re-examined its replacement expenditure forecasts and, in its submission, proposed a 14% reduction in replacement expenditure relative to its original CPP proposal.[408]

E11 Powerco, ENA and Vector criticised various aspects of Strata's analysis including its transparency, whether it was safe to make assumptions about the condition of other assets from data relating only to switchgear and protection, and whether the size of the reduction recommended by Strata was reasonable.[409]

E12 Some submitters commented that our approach removed efficiency gains before Orion had practically achieved such gains.[410]

Our final decision

E13 To make a final allowance for replacement capex, we asked Strata to reconsider its advice in light of the submissions and cross-submissions made on our draft decision.

E14 Strata's revised advice on replacement capex is included in section four of its final report.[411] Strata explains that for a variety of reasons, including limited information available to the regulator (and its advisor), a top-down approach to the review of expenditure is necessary in relation to replacement capex. Further, Strata had used all the information that had been made available to it.[412]

E15 It is now common ground between us, Strata and Orion that Orion's proposal contained too much expenditure on replacement assets. Orion has stated that it is continuing to re-examine its asset replacement programme as part of its annual

---

407 Orion New Zealand Limited, Orion CPP Proposal: Draft Decision, 20 September 2013, pp.53-59.

408 Orion New Zealand Limited, Orion CPP Proposal: Draft Decision, 20 September 2013, p.58-59.

409 Electricity Networks Association, Comment on the Draft Decision on Orion's CPP Application and Implications for the Future Implementation of Part 4 (18 September 2013). Power, Submission to Setting the 2014-2019 customised price-quality path for Orion NZ Limited: Draft Decision (20 September 2013). Vector, Submission to the Commerce Commission on Orion CPP Draft Decision, (20 September 2013).

410 Our response to this submission is noted in Chapter 3, at paragraph 3.18.

411 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.25-35.

412 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.27-28.

asset management planning process and Strata notes this in its report to the Commission.[413]

E16 We sought further information from Orion that could demonstrate that replacing complete switchboards within substations would generate lower lifetime costs than undertaking condition-based replacement of individual switches within switchboards.[414] This was to assist Strata to test the submission made to this effect by Orion.

E17 In light of the further information supplied by Orion, Strata considers that some lifecycle cost reductions could reasonably be achieved by replacing complete switchboards at the same time. Strata therefore recommended to us that more of Orion's forecast expenditure should be allowed. However, Strata was not convinced that all replacement expenditure could be justified on this basis. Strata therefore proposed that 90% of the expenditure proposed by Orion in its proposal should be allowed. In the absence of information about the age and condition of asset classes other than switchgear and protection relays, Strata continues to recommend that a similar reduction should be made to the allowance for replacement expenditure for those other asset classes.[415]

E18 For the reasons set out fully in section 4.5.2 of its final report, Strata continues to recommend that a 10% downward adjustment should be made to take into account the realistic spend that will be required during the CPP regulatory period.[416] From its submission we understand Orion accepts that there are opportunities to reduce replacement expenditure relative to its forecast, without changing the reliability limits, and that it is reviewing its expenditure plans thoroughly again to achieve gains in this regard.[417]

E19 Orion has not proposed an alternative level of reduction to the 10% recommended by Strata. We accept 10% as an appropriate reduction in this area.

413 Orion New Zealand Limited "Orion CPP Proposal: Draft Decision" (20 September 2013) p.57. Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.28.

414 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.29-30.

415 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.31.

416 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.32.

417 Orion New Zealand Limited, Orion CPP Proposal: Draft Decision, 20 September 2013, p.58.

Deliverability

E20 Strata, like the verifier, has discussed the likelihood of Orion being able to successfully deliver a replacement programme of the size proposed by Orion. Orion's actual expenditure on replacement versus its planned replacement expenditure in 2013 provides evidence of the magnitude of this deliverability challenge. Since, in Strata's view, this challenge is likely to increase over time, Strata advises that a downward adjustment should be made. Strata identifies an adjustment range for deliverability of between 5% and 10% of the proposed expenditure, and recommends a 5% reduction.[418]

E21 We accept Strata's conclusion that deliverability challenges faced by Orion are likely to result in an expenditure out-turn in the CPP period that is lower than the proposed expenditure. We agree with Strata's recommendation to limit the adjustment to the lower end of the range (ie, 5%) in order to adjust the proposed expenditure forecast to an amount that is reasonably likely to be spent.

Papanui transformers

E22 Finally, we accept Orion's submission that an additional $3m be allowed for two transformer replacements at Papanui substation. We understand replacement of these transformers is required, but the amounts had been omitted from Orion's proposal. Strata accepted this, and we agree.[419]

Comparison of allowance for replacement capex

E23 Table E1 compares our allowed level of expenditure for replacement capex against Orion's proposal, its submission, and our draft decision.

E24 Relative to the draft decision, our final decision includes the following changes:

E24.1 a reduction in the adjustment for expenditure forecasting from 20% to 10%;

E24.2 inclusion of the adjustment of 5% to reflect the expectation that work will roll over into the next period due to programme deliverability challenges; and

---

418 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.33-34.

419 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.34.

E24.3 Inclusion of the $3m additional expenditure for the Papanui transformers.[420]

E25 In combination, this mix of adjustments reduces the overall adjustment to replacement capex from 30% in the draft decision to an average reduction in our final decision of approximately 20.6%.[421]

420 For the advice on which we based our draft decision, refer Strata Energy Consulting Limited "Technical Advisor Report on the Orion New Zealand Ltd CPP Proposal" (2 August 2013), p.39, and for the advice on which we based our final decision, refer Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.35.

421 Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.35.

Attachment F: Connections and extensions

Purpose of this attachment

F1 This attachment discusses the allowance for forecast capital expenditure on connections and extensions to Orion's network.

F2 Expenditure on connections and extensions is used to:

F2.1 establish new connection points for customers to Orion's network;

F2.2 upgrade existing connections; or

F2.3 extend the network into previously non-reticulated areas, such as new subdivisions.

Summary of our final decision

F3 We consider that Orion's proposed expenditure of $60.2 million on connections and extensions capex projects in the CPP period exceeds the amount required to meet the expenditure objective and is not in the long-term interests of consumers.[422]

F4 Instead, we have allowed $55.4m of capital expenditure for connections and extensions projects. We consider this amount is appropriate to meet the expenditure objective.

What Orion proposed

F5 Orion's CPP proposal included forecast expenditure on connections and extensions for 2015 to 2019. Forecast capital contributions for connections and extensions were also included in the CPP proposal for 2015 to 2019.

F6 Capital contributions are required by Orion to partially fund these projects and can be made either by payment from requesting parties to Orion, or by vesting of electricity distribution assets to Orion. The value of capital contributions is netted off the gross forecast amount needed to undertake connections and extensions work, reducing the amount of forecast capex that is included in this capex category.

Our draft decision

F7 In our draft decision, we considered that Orion's forecast expenditure was, in some years within the CPP period, in excess of the level required to meet expected

---

[422] The expenditure objective is set out in Commerce Commission "Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper" (22 December 2010), paragraph 9.4.1d, and is discussed in regard to Orion's proposal in Chapter 2.

demand for connections and extensions and so did not meet the expenditure objective.[423]

F8 The reasons for this view were provided in the draft decision and are summarised as follows.

F8.1 We considered that Orion's forecast expenditure in the 2015 to 2017 period was reasonable, based on the information provided by Orion in its proposal regarding increased relocations of consumers from earthquake damaged areas.

F8.2 However, we considered that the forecasts for 2018 and 2019 were too high, as Orion had stated that earthquake-driven relocations would be complete by 2018 and that connection and extension volumes should have returned to nearer pre-earthquake levels. The forecasts included in Orion's proposal did not reflect a return to near pre-earthquake levels in 2018 and 2019.

F9 Therefore, we adjusted the connections and extensions forecasts as set out in Table F1 below. Our draft decision resulted in a reduction of $4.9m compared to Orion's forecasts.

Submissions on our draft decision

F10 In its submission on the draft decision, Orion:

F10.1 pointed out that its forecast of connections and extensions was prepared a year previously;

F10.2 stated it now considered that earthquake recovery activity will pick up at a much slower rate than Orion had assumed when it prepared its CPP proposal and cited a number of media references in support of this view;

F10.3 acknowledged that uncertainty exists in its connections and extensions forecasts;

F10.4 noted that the Commission's reduced forecast would have a very minor impact on the price path; and

F10.5 accepted the draft decision allowance for this capex category.[424]

---

423 Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision” (14 August 2013), paragraphs F1-F23.

424 Orion “Orion CPP proposal: Draft Decision” (20 September 2013), –pp.59-60.

F11 There were no other submissions that specifically related to expenditure in this capex category.

Our final decision

F12 Having noted that:

F12.1 Orion has accepted the draft decision allowance for this capex category; and

F12.2 there were no other detailed submissions related to expenditure in this capex category,

our final decision is to confirm the expenditure forecast for connections and extensions that was included in the draft decision.

F13 The final decision for connections and extensions capex is shown in Table F1.

Table F1 - Connections and extensions expenditure forecasts ($m)

	2015	**2016**	**2017**	**2018**	**2019**
Orion's proposal	13.1	13.4	12.3	10.9	10.4
Draft decision allowance	13.1	13.4	12.3	8.2	8.2
Orion's submission	13.1	13.4	12.3	8.2	8.2
Final decision allowance	13.1	13.4	12.3	8.2	8.2

Note: Prices in 2013 dollars. All amounts are net of capital contributions.

Attachment G: Conversions and undergrounding forecasts

Purpose of this attachment

G1 This attachment discusses the allowance for forecast capital expenditure on conversions and undergrounding work in Orion's network.

G2 Expenditure on conversions and undergrounding is used in projects that replace existing overhead lines with underground cables or to relocate network assets, initiated at the request of external parties such as local councils, roading authorities and property developers.

Summary of our final decision

G3 We consider that Orion's proposed net expenditure of $4.7 million on conversions and undergrounding capex projects in the CPP period meets the expenditure objective and is in the long-term interests of consumers.[425]

What Orion proposed

G4 Orion's CPP proposal included forecast expenditure on conversions and undergrounding projects, net of capital contributions, for 2015 to 2019.

G5 Orion does not have a programme in place to systematically replace overhead assets in its network with underground assets and, in the majority of cases, cannot justify conversions and undergrounding work as expenditure that would meet the expenditure objective.

G6 Conversions and undergrounding work only takes place:

G6.1 if required by the Christchurch City or Selwyn District Councils, as part of their neighbourhood planning improvements;

G6.2 if required by the NZTA or local councils in conjunction with roading upgrades, where existing network assets would be in the way of realigned roads; or

G6.3 at the request of private individuals or property developers, usually to meet amenity improvement objectives.

[425] The expenditure is net of contributions from consumers and councils. The expenditure objective is set out in Commerce Commission “Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper” (22 December 2010), paragraph 9.4.1d, and is discussed in regard to Orion's proposal in Chapter 2.

G7 In each case, Orion's policy requires that the project costs must be partially met by a capital contribution from the initiating third party, with the balance being met by Orion.

G8 Orion proposed $12.3 million of total expenditure for conversions and undergrounding in the years 2015 to 2019. After allowing for forecast contributions, Orion forecast it would bear $4.7 million of net expenditure for projects in this capex category over that period. This amount is shown in Table G1, broken down by year in the CPP period 2015 to 2019.

Our draft decision

G9 In our draft decision, we concluded that the proposed net expenditure on conversions and undergrounding did not meet the expenditure objective.[426]

G10 We reached this conclusion on the basis that Council-initiated conversions are effectively undertaken in lieu of dividends to Orion's Council shareholders (although are no longer described as such) and do not demonstrably contribute to the long-term benefit of Orion's consumers in their capacity as electricity consumers (rather than as ratepayers).

G11 We considered that the forecast contribution rates for the Council-initiated projects should be adjusted upwards. The councils are currently contributing to conversion and undergrounding projects at a rate of 80% of the total project costs. This rate was negotiated with the councils some time ago based on the concept that the contributions were in lieu of foregone dividends and based on the tax regime applying at that time. We considered that the offsetting tax benefits for Orion that potentially justify a 20% discount on contributions no longer appeared to exist.

G12 Therefore, we adjusted the forecast contribution rate for Council-initiated conversion and undergrounding projects to 100%. This resulted in forecast net expenditure totals on conversions and undergrounding projects of $3.7 million for the years 2015 to 2019, representing a reduction of $1.0 million compared to Orion's forecasts.

Submissions on our draft decision

G13 In its submission on the Draft Decision, Orion:

G13.1 stated that it has contract arrangements in place with councils that specify an 80% contribution rate;

---

[426] Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision" (14 August 2013), paragraphs F24-F28.

G13.2 stated that if the price path is set consistent with the draft decision, Orion will not be able to fully recover the costs of the conversion and undergrounding projects included in the forecast; and

G13.3 provided a summary table that indicates that the draft decision (corrected) allowance for conversions capex is $4.7m (which was the allowance included in Orion's CPP proposal), when it is in fact $3.7m (the Commission's reduced amount after applying an increased Council contribution rate).[427]

G14 The capex forecast that corresponds to Orion's submission (which restates the amounts in its CPP proposal) is shown in Table G1.

G15 There were no other submissions that specifically related to expenditure in this capex category.

Our final decision

G16 We have given further consideration to the points raised by Orion and to policy options relating to cost recovery of conversions and undergrounding expenditures by means of capital contributions from requesting parties.

G17 We consider there will likely be some level of benefit that would accrue to Orion from undergrounding and conversions projects, for example, if Orion were able to avoid future replacement or refurbishment costs in respect of the removed assets. Since underground circuits are more expensive to provide than overhead circuits of equivalent capacity, the level of this benefit is unlikely to ever exceed the costs.

G18 Reflecting this benefit, a rational capital contributions policy would therefore require less than a 100% contribution from the requesting party for the project to proceed on an efficient basis. However, in the absence of further information we have not been able determine whether a rate higher or lower than 80% would be more appropriate than what Orion has proposed.

G19 Having noted that there were no other specific submissions related to expenditure in this capex category, our final decision is to confirm the expenditure forecast for connections and extensions that was included in Orion's CPP proposal.

G20 The final decision allowance for conversions and undergrounding capex is shown in Table G1.

[427] Orion "Orion CPP proposal: Draft Decision" (20 September 2013), pp.60-61.

Table G1 – Conversions and undergrounding expenditure forecasts ($m)

	2015	2016	2017	2018	2019
Orion's proposal	0.4	2.4	1.3	0.3	0.2
Draft decision allowance	0.2	2.2	1.1	0.1	0.1
Orion's submission	0.4	2.4	1.3	0.3	0.2
Final decision allowance	0.4	2.4	1.3	0.3	0.2

Note: Prices in 2013 dollars. All amounts are net of contributions.

Attachment H: Network reinforcement

Purpose of this attachment

H1 This attachment discusses the forecast of expenditure on network reinforcement.

Summary of our final decision

H2 We accept Orion's forecast of network reinforcement capex as contained in its CPP proposal. Our final decision is unchanged from our draft decision.

Orion's proposal

H3 Orion has defined reinforcement as investments in the 11 kV network required as a result of load growth which has eroded the capacity or security of supply on a feeder.[428]

H4 Table H1 below provides a summary of Orion's proposed urban and rural reinforcement expenditure.

Table H1 - Urban and rural reinforcement expenditure during CPP period ($m)

	2015	2016	2017	2018	2019
Urban reinforcement	3.8	2.3	2.9	3.0	2.3
Rural reinforcement	0.7	2.2	1.6	1.5	2.3
Total reinforcement	4.5	4.5	4.5	4.5	4.5

Note: Prices at 2013 constant prices.

H5 In its proposal, Orion states that the proposed expenditure for 2014 and 2015 is based on currently planned work and the forecasts for 2016 to 2019 are based on the average of 2012 and 2013 expenditure.[429] Orion states that the forecast reinforcement expenditure is similar to its historical levels since 2007.[430]

Our draft decision

H6 From our analysis for the draft decision, we considered that Orion's total reinforcement expenditure was a reasonable forecast of the efficient costs that a prudent EDB would require to reinforce the 11 kV network and therefore meets the

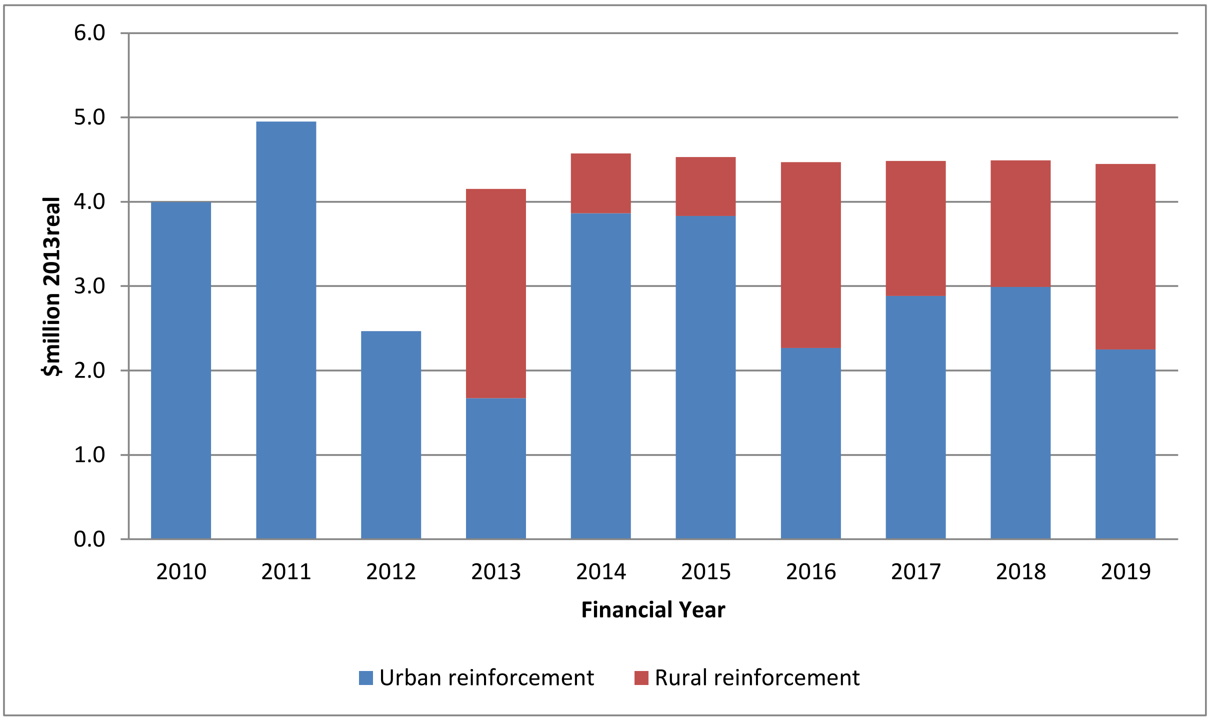
428 Orion "Urban reinforcement CPP51 Project Summary" in Orion *Proposal for a customised price-quality path* (19 February 2013), Appendix 36, pp.3-4.

429 Orion "Urban reinforcement CPP51 Project Summary" in Orion *Proposal for a customised price-quality path* (19 February 2013), Appendix 36, p.8.

430 Orion "Urban reinforcement CPP51 Project Summary" in Orion *Proposal for a customised price-quality path* (19 February 2013), Appendix 36, p.10.

expenditure objective. For a category of expenditure like Orion's reinforcement expenditure, our initial approach to the analysis was to compare the forecast expenditure proposed by Orion with its historical expenditure.[431] This comparison of forecast and historic expenditure is illustrated in Figure H1 and suggests forecast reinforcement expenditure is around the level spent historically. Accordingly, our draft decision used Orion's forecasts of reinforcement expenditure.

Figure H1 - Historical and proposed reinforcement expenditure



H7 In our draft decision, we also considered the split of forecast expenditure between Orion's rural and urban networks. Based on Orion's reason for reinforcement projects, we considered that since Orion is planning to build two new substations and install diesel generation in the urban north area, the need to reinforce the 11 kV network in the urban area may be less in the later years of the CPP period than in the earlier years. However, there could be a greater need to reinforce the 11 kV network in the rural areas in the later years of the CPP period. Orion also states that the split between urban and rural reinforcement cannot be reliably estimated more

---

431 Since Orion had incentives to achieve an efficient spend historically, we assume the level of historic spending should provide an indication of a reasonable approximation of forecast expenditure requirements given the nature and drivers of expenditure in this area.

than two to three years out.[432] Figure H1 above shows the year to year variation in expenditure between rural and urban reinforcement.

H8 Orion has stated that since reinforcement is more tactical than major capex it does not have firm plans for projects more than two to three years out. So for 2017 onwards most of the budget is considered unidentified and projects will be specified closer to the time they are undertaken.[433]

Submissions on our draft decision

H9 No submissions were made on the level of reinforcement expenditure. We note that Orion's submission on our draft decision assumed the same level of reinforcement expenditure to that proposed in our draft decision.[434]

Our final decision

H10 We see no grounds for making any adjustment in the allowance for reinforcement expenditure to that proposed in the draft decision (and in Orion's proposal). Our final decision is shown in Table H2.

Table H2 - Reinforcement expenditure during CPP period ($m)

	2015	2016	2017	2018	2019
Orion's Proposal	4.5	4.5	4.5	4.5	4.5
Draft Decision	4.5	4.5	4.5	4.5	4.5
Orion's Submission	4.5	4.5	4.5	4.5	4.5
Our Final Decision	4.5	4.5	4.5	4.5	4.5

Note: prices in 2013 dollar values.

432 Orion "Urban reinforcement CPP51 Project Summary" in Orion *Proposal for a customised price-quality path* (19 February 2013), Appendix 36, p.10.

433 Orion "Urban reinforcement CPP51 Project Summary" in Orion *Proposal for a customised price-quality path* (19 February 2013), Appendix 36, p.10.

434 Orion New Zealand Limited, Orion CPP Proposal: Draft Decision, (20 September 2013), p.61.

Attachment I: Maintenance of network assets

Purpose of this attachment

I1 In this attachment we discuss our allowance for opex to maintain network assets.

I2 In the draft reasons paper we reviewed network maintenance opex and replacement capex together in a single attachment, but in this document replacement capex is discussed separately from the maintenance of network assets (see Attachment E). [435]

Summary of our final decision

I3 We consider that Orion's proposed expenditure of $129.3 million to maintain network assets over the CPP period exceeds the amount required to meet the expenditure objective.[436]

I4 Instead, we have allowed $114.6 million for this area of operating expenditure, an amount which we consider, based on expert advice from Strata, meets the expenditure objective.[437]

What Orion proposed

I5 Orion submitted forecast opex using alternative categories, as permitted under the IMs.[438] Table I1 is therefore broken down into these categories rather than those specified within the IMs.

I6 Orion proposed $129.3 million for the maintenance of network assets over the CPP period.

---

435 Refer to Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision” (14 August 2013), Attachment E for a discussion on network maintenance opex and replacement capex.

436 The expenditure objective is set out in Commerce Commission “Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper” (22 December 2010), paragraph 9.4.1d], and is discussed in regard to Orion's proposal in Chapter 2.

437 Strata Energy Consulting Limited “Further advice on the Orion New Zealand Ltd CPP Proposal and submissions“ (19 November 2013), pp.36-40.

438 Electricity Distribution Services Input Methodologies Determination 2012 [2012] NZCC 26, clause 5.4.31. This clause contains transitional provisions allowing CPP proposals submitted on or before 31 March 2016 to use the applicant’s own opex and capex categories rather than the opex and capex categories specified in the IMs.

Table I1 - Orion's proposed opex by category to maintain network assets ($m)

Expenditure Category	2015	2016	2017	2018	2019	CPP Total
Scheduled Maintenance	18.2	17.8	16.7	16.3	16.4	85.5
Emergency Maintenance	6.5	7.7	6.5	6.5	6.5	33.8
Unscheduled Maintenance	2.0	2.0	2.0	2.0	2.0	10.0
Total Network Maintenance	**26.7**	**27.5**	**25.2**	**24.9**	**25.0**	**129.3**

Note: Prices are in 2013 constant prices.

Our draft decision

I7 In our draft decision we concluded that Orion's proposed expenditure for network maintenance exceeds the amount required to meet the expenditure objective. This was because:

- I7.1 we had concerns that Orion's forecasts were built from the bottom up without the benefit of applying review and challenge processes similar to its annual budgeting and planning processes across all years of the CPP forecast. As a result we did not believe Orion would have captured normal cost reduction initiatives and/or organisation-wide expenditure efficiencies;[439]

- I7.2 the proposed increase in emergency cable maintenance expenditure appeared greater than signalled by Orion's forecast cable defect rates and the latest available defect rate information; and

- I7.3 a contingency factor had been included that was not appropriate. We considered any variances in costs should be able to be managed within the overall forecast for network maintenance.[440]

I8 Based on advice from Strata, our draft decision was to adjust Orion's proposed level of network maintenance expenditure by:

[439] Our draft decision, quoted here, used the words "expenditure efficiencies" but in the context in which this phrase was used in the draft decision, it would have been more correct to refer to typical operating synergies in a business like Orion.

[440] Commerce Commission, "Setting the 2014-2019 customised price-quality path for Orion New Zealand Ltd - Draft Decision" (14 August 2013), paragraph E44.

I8.1 reducing by 5% the allowance for scheduled and unscheduled maintenance expenditure to reflect the opportunities to be found for reducing expenditure when assessing organisation-wide expenditure;

I8.2 reducing by $9 million the allowance for emergency maintenance expenditure to take into account a reasonable expectation of future cable fault rates;[441] and

I8.3 removing the contingency sum of $7.5 million.[442]

Submissions on our draft decision

I9 Orion challenged some aspects of our draft reasons paper, but accepted the reductions in opex in our draft decision, subject only to the correction of errors in the draft reasons paper identified by the Commission subsequent to its release. [443]

I10 ENA, Meridian Energy, Powerco, and Vector also made relevant points in submissions on our draft decision.[444] More specifically, these submissions focused on the trade-off between expenditure and quality, consumer's ability to submit meaningfully without more information to that which has been provided, the need for greater transparency and evidence to support the links between expenditure and quality, and reducing forecasts for efficiency gains before these gains have been realised.

441 Strata has since identified that this adjustment was overstated due to an error in calculations. The correct amount is $2.8m. The correction has been made in our final decision. See Strata Energy Consulting Limited “Further advice on the Orion New Zealand Ltd CPP Proposal and submissions” (19 November 2013), p.36.

442 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Ltd - Draft Decision (14 August 2013), paragraph E45.

443 Orion New Zealand Limited “Orion CPP Proposal: Draft Decision” (20 September 2013), p.68. The error was advised to stakeholders by our email from Alex Sim (Regulation Branch) of 3 September 2013 and is noted on our website at http://www.comcom.govt.nz/regulated-industries/electricity/cpp/orion-cpp under the heading "Orion request for information about draft decision".

444 Electricity Networks Association “Comment on the Draft Decision on Orion’s CPP Application and Implications for the Future Implementation of Part 4” (18 September 2013), pp.10-14; Meridian Energy Limited “Draft decision on Orion customized price-quality path proposal” (11 September 2013), pp.1-2; Powerco, “Powerco submission to Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft Decision” (20 September 2013), pp.4-6; Vector “Submission to the Commerce Commission on Orion CPP Draft Decision” (20 September 2013), pp.20-26.

Our final decision

I11 We asked Strata to consider its earlier advice to us on the appropriate level of maintenance opex in light of submissions. Section five of Strata's final report discusses the issues raised in submissions.[445]

I12 Strata notes that Orion has accepted the adjustments recommended by Strata for the draft decision and advises that, in its opinion, Orion's revised opex forecast for the CPP period (contained in Orion's submission on the draft decision) meets the expenditure objective.[446]

I13 Accordingly, Strata recommends, and we agree, that the forecasts for network maintenance opex included in Orion's proposal should be: [447]

I13.1 reduced by a further 5% for scheduled maintenance and unscheduled maintenance to reflect the expected gains from improved asset knowledge and management and the application of prudent management practices;

I13.2 reduced by $2.8 million for emergency maintenance opex to reflect a reasonable expectation of future cable fault rates; and

I13.3 reduced by $7.5 million to reflect the removal of the unsupported contingency sum.[448]

I14 Our final allowance for network maintenance operating expenditure relative to that proposed by Orion in its proposal, our draft decision, and Orion's submission, is set out in Table I2.

---

[445] Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), pp.36-40.

[446] Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.39.

[447] Strata Energy Consulting Limited "Further advice on the Orion New Zealand CPP Proposal and submissions" (19 November 2013), p.40.

[448] No information was provided on why a contingency was required and what particular uncertainties it was addressing that have not already been addressed when developing the forecast of expenditure.

Table I2 - Allowances for expenditure to maintain network assets ($m)

	2015	2016	2017	2018	2019
Orion's Proposal	26.7	27.5	25.2	24.9	25.0
Draft Decision	22.5	23.3	21.1	20.7	20.8
Orion's Submission	23.7	24.6	22.3	22.0	22.1
Our Final Decision	23.7	24.6	22.3	22.0	22.1

Note: prices in 2013 dollar values.

Attachment J: Network management and operations

Purpose of this attachment

J1 In this attachment we discuss expenditure on network management and operations and the rationale for the adjustments we have made to Orion's forecasts for this expenditure.

Summary of our final decision

J2 We consider that Orion's proposed expenditure of $81.2 million on network management and operations expenditure in the CPP period exceeds the amount required to meet the expenditure objective.

J3 We have allowed $76.1 million of expenditure, an amount which we consider, based on expert advice, properly reflects the amount required to meet the expenditure objective.

What Orion proposed

J4 Orion's Network Management and Operations group is responsible for safety, network strategic planning, asset management / property management, engineering support, lifecycle management, and operations management (which includes customer service).[449]

J5 The Network Management and Operations group included 131 full-time equivalent staff members (FTE's) as at December 2012 (including technical engineers).[450] As at December 2012 this group represented approximately 75% of Orion's total staff.[451]

J6 Around 85% of the forecast expenditure proposed for this group is employee remuneration. The remaining 15% of expenditure is made up of training, equipment and recruitment costs.[452]

J7 Table J1 below shows actual staffing increases within the Network Management and Operations group between 2010 and 2012 and Orion's proposed staffing increases as at 2019 and 2025.

---

449 Orion "Proposal for a customised price-quality path" (19 February 2013), Infrastructure Management Opex CPP 167 Programme Summary, Appendix 36.

450 Orion budgets for Technical Engineers under the engineering support team but utilises them throughout the Network Management and Operations group.

451 Orion "Proposal for a customised price-quality path" (19 February 2013), p.554.

452 Geoff Brown & Associates Ltd "Verification Report" in Orion "Application for a customised price-quality path" (19 February 2013), Appendix 7, p.A102.

Table J1 - Projections of Orion infrastructure staff numbers (FTEs)[453]

Network management and operations	**2010**	**2012**	**2019**	**2025**
Safety and Risk	2	3	4	3
Strategic Planning	6	3	5	4
Asset Management	29	37	39	33
Engineering Support	9	8	10	8
Lifecycle Management	14	24	28	24
Operations	40	50	59	55
Total network management and operations	**100**	**125**	**145**	**127**

J8 Staff numbers within the Network Management and Operations group increased by 25 FTEs between 2010 and 2012 (from 100 to 125), a period which included dealing with the direct aftermath of the Canterbury earthquakes (the period when one might have expected the need for personnel to be greatest). However, Orion has proposed to grow personnel numbers by a further 20 staff FTEs by the end of 2015, with staffing levels forecast to remain at that level until the end of 2019. This represents a 45% increase in staffing levels, when compared with the levels in 2010.

J9 The resulting cost of providing network management and operations services in the CPP period is summarised in Table J2.

Table J2 - Network Management and Operations Expenditure ($m)

Expenditure category	**2015**	**2016**	**2017**	**2018**	**2019**
Network management and operations expenditure	16.2	16.3	16.2	16.2	16.3

Note: Prices in 2013 constant prices.

J10 Orion has stated that it has no information indicating when the earthquake recovery phase will end or slow down during the CPP period, and that it therefore does not see staffing levels decreasing until after the CPP period.[454] This is reflected in the tables above. Orion's proposal notes also that there "may be some reductions

[453] Orion's internal infrastructure staff projections, May 2012. The summary excludes technical engineers.
[454] Orion "Infrastructure Management Opex CPP167" in Orion "Proposal for a customised price-quality path" (19 February 2013), Appendix 36, p.15.

attributable to earthquake works which start to show from FY20, but many of the issues will be ongoing".[455]

J11 This proposed ongoing level of FTEs represents an increase of 27% in FTEs over 2010 levels (ie, pre-earthquake levels).

Our draft decision

J12 In our draft decision we noted that:

J12.1 Orion has increased employee numbers in the Network Management and Operations group from 100 full-time equivalent personnel in 2010 to 125 in 2012 and, through its CPP proposal, proposed to increase this to 145 full-time equivalent personnel by the end of the CPP period;

J12.2 neither ourselves, Strata (our technical advisor), nor the Verifier were persuaded that Orion had demonstrated the need for this increase in Orion personnel and for it to be required for the full CPP period;

J12.3 Orion's proposed expenditure has not been adjusted for organisation-wide optimisation of staff numbers required; and

J12.4 it is likely that there is potential to reduce expenditure forecasts by reducing workload and improving process efficiencies.[456]

J13 Our draft decision was that Orion's proposed expenditure on network management and operations exceeded the level required to meet the expenditure objective and we therefore assumed only half the increase in personnel numbers proposed by Orion. We noted that this still assumed a total level of personnel that was 35% above 2010 levels for the full CPP period and provided for an additional ten staff over and above the December 2012 level.[457] Orion will determine the type of staff it hires, how many, and in which area of its business they will work.

J14 As a result, our draft decision reduced the expenditure allowance by around $1 million per annum, as summarised in Table J3 below.

---

455 Orion "Infrastructure Management Opex CPP167" in Orion "Proposal for a customised price-quality path" (19 February 2013), Appendix 36, p.15.

456 Commerce Commission, "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited - Draft Decision" (14 August 2013), paragraphs G11 to G22.

457 Commerce Commission, "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited - Draft Decision" (14 August 2013), paragraphs G23 to G26.

Table J3 - Network Management and Operations Expenditure ($m)

	2015	2016	2017	2018	2019
Orion's Proposal	16.2	16.3	16.2	16.2	16.3
Draft Decision	15.2	15.3	15.1	15.2	15.3
Orion's Submission	15.2	15.3	15.1	15.2	15.3
Our Final Decision	15.2	15.3	15.1	15.2	15.3

Note: prices in 2013 dollar values.

J15 As cross-checks on our allowance:

J15.1 we compared our assessed levels of network maintenance and operations expenditure to a time series of Orion's historic network maintenance and operations expenditure as a high level cross-check of our proposed allowance. We concluded that our allowance of network maintenance and operations expenditure "looks reasonable and possibly even generous" when compared against historical spending levels; and

J15.2 we also noted that Orion spent less than forecast ($12.2 million versus $13.7 million) in 2013 and that this was primarily due to lower recruitment and staff costs due to the inability to fill some positions when planned.[458]

Submissions on our draft decision

J16 Orion challenged some aspects of our reasoning in the draft reasons paper, but accepted without adjustment the overall conclusion on the network management and operations opex allowances totalling $76.1 million for the CPP period. [459]

Our final decision

J17 None of the submissions which relate specifically to network management and operations expenditure challenge the allowance included in our draft decision, and we see no other reason for adjusting that allowance. Our final decision is therefore

---

458 Commerce Commission, "Setting the 2-14-2019 customised price-quality path for Orion New Zealand Limited - Draft Decision" (14 August 2013), paragraphs G27 to G30. The variance analysis was provided by Orion to the Commission in response to an additional information request.

459 See Commerce Commission, "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft Decision (14 August 2013), paragraph G24 and Table G4 and Orion New Zealand Limited, Orion CPP Proposal: Draft Decision, 20 September 2013, table on p. 69. "Infrastructure management' difference is zero and "corporate and admin" difference is zero.

to set an allowance of $76.1 million for network management and operations expenditure, the same as that proposed in the draft decision.

Attachment K: General management, administration and overheads

Purpose

K1 In this attachment we discuss expenditure on general management, administration and overheads and the rationale for the adjustments we have made to the amounts proposed by Orion in its CPP proposal.

Summary of our final decision

K2 We consider that Orion's proposed expenditure for general management, administration and overheads does not meet the expenditure objective. We do not consider that Orion's contingent provisions for special projects, which are to cover regulatory related activity, have been adequately justified.

K3 The adjustments we have made are summarised in Table K1 below.

Table K1 - General management, administration and overhead expenditure ($m)

	2015	2016	2017	2018	2019
Orion's Proposal	13.7	13.8	14.3	14.1	14.9
Draft Decision	13.2	13.3	13.8	13.6	13.6
Orion's Submission	13.2	13.3	13.8	13.6	14.4
Our Final Decision	13.2	13.3	13.8	13.6	13.6

Note: prices in 2013 dollar values.

What Orion proposed

K4 The CPP proposal sought annual expenditure in this category of between $13.7 million and $14.9 million (see Table K1).

Our view of the proposed expenditure

K5 Our evaluation of the expenditure in this category highlighted a step change in general management, administration and overhead expenditure in 2015 and subsequent years when compared with historic levels. The step change, after isolating out the effect of one-off earthquake-related overheads and head office demolition costs, is driven primarily by an increase in insurance costs and proposed special project expenditure.

K6 We reviewed each of the major costs in this expenditure category and carried out an overall check of past and forecast time series data across the whole expenditure category in order to check that the proposed expenditure allowances are reasonable against historical spend, allowing for those one-off costs associated with the demolition of Orion's former head office on Manchester Street in 2013 and 2014.

K7 We looked at the forecast increase in insurance costs, as the rise in insurance expenditure is the most significant component of the increase in this expenditure category.

K8 We appointed Aon to review Orion's insurance arrangements and while Aon identified the possibility of future refinement as to how an EDB might insure or self-insure its network assets, it was not engaged to evaluate how much this may cost Orion.

K9 On the basis that the advice Orion received from Marsh on the current cost of insurance is not inconsistent with Aon's broader conclusions on risk financing, we have accepted the insurance costing provided by Orion.

K10 In comparison with the approach we adopted when making the 2010-2015 DPP reset, we note that a special allowance was provided in that DPP for insurance premiums to recognise the increased costs of insurance following the Canterbury earthquakes.[460] However, we do not believe that any adjustment needs to be made in Orion’s case for the CPP, given that Orion has had the opportunity to reflect its forecast insurance cost in its proposed expenditure.

Our draft decision

K11 In our draft decision we concluded that Orion’s proposed expenditure contingencies that are primarily for regulatory activities do not meet the expenditure objective. Orion has not demonstrated that these proposed costs are reasonably likely to be incurred. In particular:

K11.1 we do not consider a $500,000 per annum provision is needed, given the current regulatory regime and Orion's historic spend in this area, which averages around $200,000 per annum (excluding Orion's current CPP application). We would expect any costs in this area to be managed within overall budget allocations and have removed $500,000 per annum from our allowance for proposed expenditure; and

K11.2 we also do not consider that a $750,000 provision in 2019 to meet the anticipated costs of Orion transitioning from a CPP to a DPP is warranted. We removed this cost from our allowance for proposed expenditure.

---

460 Commerce Commission “Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors” (30 November 2012), paragraph A5.

Submissions on our draft decision

K12 Orion submitted that the 2019 $750,000 provision for regulatory costs is "included to allow us to effectively engage in the process necessary to transition off the CPP".[461]

K13 Orion argued that as this is the first ever CPP, there should be a specific allowance to cover the expected costs of engaging with the Commission on the setting of its price path following the CPP.

Our final decision

K14 We have previously considered the issue of one-off regulatory costs in the context of the setting of the Gas DPP in February 2013.[462] Consistent with the reasons given at that time to allow only one such amount on an exception basis for GasNet's new regulatory compliance costs under the Gas DPP and information disclosure, but not to specifically allow for the compliance costs of other Gas DPP submitters, we do not accept Orion's submission for the forecast one-off $750,000 regulatory cost.

K15 Orion is not newly exposed to the costs of being regulated under Part 4 and it can therefore be expected to have already made some allowance in its overhead costs for engagement with the Commission within the Part 4 regime. The amount proposed is not sufficiently substantiated as a forecast cost.

---

461 Orion "Orion CPP proposal: Draft decision" (20 September 2013), paragraph 306.

462 Commerce Commission "Setting Default Price-Quality Paths for Suppliers of Gas Pipeline Services" (28 February 2013), paragraphs C34-C35.

Attachment L: Quality standards

Purpose of this attachment

L1 This attachment explains our reasons for the quality standards that Orion will be required to meet during the CPP.

L2 Orion’s existing quality standards under the DPP only concern network reliability.[463] These standards are set as reliability limits based on the average number and duration of interruptions.[464]

L3 Orion's proposal reflected the view that, because of the impact of the earthquakes, it could not perform within its current reliability limits. The proposed quality standard variation initially relaxes those limits, with improvements required over the CPP period.[465]

L4 The determination of Orion's quality standards that will apply during the CPP period was an important step that informed the analysis of proposed expenditure against the 'expenditure objective'.

Summary of final decision

L5 We have been satisfied that the variations in the quality standards proposed in Orion's CPP proposal better reflect its realistically achievable performance over the CPP period than Orion's current reliability standards under its DPP.[466]

L6 We have considered submissions on our draft decision that the proposed quality standards should be further relaxed as a result of our draft decision to reduce the opex and capex proposed in the CPP proposal, however, our view has not changed.[467] Considered overall against the expenditure allowances in our final

---

463 Network reliability is the term used to refer to the extent that a network provides consumers with a continuous, uninterrupted supply of electricity. There are other aspects of quality that are important to consumers too. For example, resilience and security, which are concepts that are explained in Attachment S.

464 These reliability limits are known as System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI).

465 A relaxation of reliability limits means that they are increased (ie, reliability may be worse without exceeding the limits). An improvement means that reliability limits are decreased (ie, reliability is expected to be better).

466 The evaluation criteria set out in clause 5.2.1 of the IMs include a requirement to assess the extent to which any proposed quality standard variation "better reflects the realistically achievable performance of the EDB over the CPP regulatory period, taking into account either or both - i) statistical analysis of past SAIDI and SAIFI performance; and ii) the level of investment provided for in proposed maximum allowable revenue before tax, as the case may be". *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1(e).

467 Orion New Zealand Limited “Submission on the Orion CPP issues paper” (24 May 2013), p.9.

decision, we consider that the quality standard variation proposed by Orion in its CPP proposal is appropriate for the CPP period and that the proposed limits meet the evaluation criteria set out in clause 5.2.1 of the IMs.

L7 Table L1 and Table L2 set out the reliability limits to apply to Orion for the CPP period, expressed as SAIDI and SAIFI limits for each year in the CPP period.[468]

Table L1 - Orion's CPP reliability limits (SAIDI)

	2015	2016	2017	2018	2019
Orion's Proposal	103.8	94.7	91.0	82.4	73.4
Draft Decision	103.8	94.7	91.0	82.4	73.4
Orion's Submission	105.7	98.4	96.5	89.8	87.9
Our Final Decision	103.8	94.7	91.0	82.4	73.4

Table L2 - Orion's CPP reliability limits (SAIFI)

	2015	2016	2017	2018	2019
Orion's Proposal	1.36	1.21	1.16	1.02	0.87
Draft Decision	1.36	1.21	1.16	1.02	0.87
Orion's Submission	1.39	1.27	1.24	1.12	1.09
Our Final Decision	1.36	1.21	1.16	1.02	0.87

L8 As for other EDBs we will apply the '2-out-of-3' test when assessing Orion's compliance with the above reliability limits.[469] This means that Orion's network will need to perform within these limits in each year of the CPP period or the two years

[468] Orion's SAIDI and SAIFI limits before the earthquakes (and under the current 2010 DPP) are 59.7 and 0.78 respectively.

[469] Commerce Commission “Companion Paper on the Draft Determination and Compliance Requirements for Orion New Zealand Limited’s 2014-2019 Customised Price-Quality Path” (3 September 2013), paragraph 4.1.

immediately prior.[470] However, as we explained in our companion paper to the draft determination:[471]

> in applying the '2-out-of-3' test we will be recognising that Orion has already breached the quality standards under the default price-quality path in the period prior to the CPP regulatory period. The quality standard variation proposed by Orion and implemented by us for the regulatory period effectively wipes the slate clean and starts that test anew with effect from the start of the regulatory period.

What Orion proposed

L9 Due to the impact of the earthquakes, Orion proposed to initially increase the reliability limits under its current DPP, and return to within 25% of those limits by the end of the CPP period. The earthquakes caused damage to Orion's network that has increased the number and duration of power interruptions experienced by consumers.

L10 The reduced reliability since the earthquakes is largely a result of damage to the 11kV and the 66kV urban networks.[472] Fault rates experienced in 2011, 2012, and in 2013 are well above historic levels. Tests by Orion indicate that some of the 11kV and 66kV urban cables may have been significantly stressed by the earthquakes. This could increase the future rate of failure of these cables.[473]

L11 In preparing its CPP proposal, Orion consulted consumers about the quality standards it should target. Orion stated in its proposal that it provided a highly reliable service to consumers before the earthquakes and proposed returning reliability to near pre-earthquake levels by 2019.[474] In Orion's view, feedback received from consumers supported this (though we have questioned how much reliance can be placed on this consultation).[475]

L12 Orion's proposed expenditure levels reflected what it considered necessary to meet forecast demand for its services, while meeting the objective of improving reliability over the CPP period towards pre-earthquakes levels.[476]

---

470 This is based on the rule that applies to other EDBs under the EDB DPP determination.

471 Commerce Commission "Companion Paper on the Draft Determination and Compliance Requirements for Orion New Zealand Limited's 2014-2019 Customised Price-Quality Path" (3 September 2013), paragraph 4.1.

472 Orion "Proposal for a customised price-quality path" (19 February 2013), p.134.

473 Orion "Proposal for a customised price-quality path" (19 February 2013), p.141 and Appendix 8.

474 Orion "Proposal for a customised price-quality path" (19 February 2013), pp.92-96 and 156.

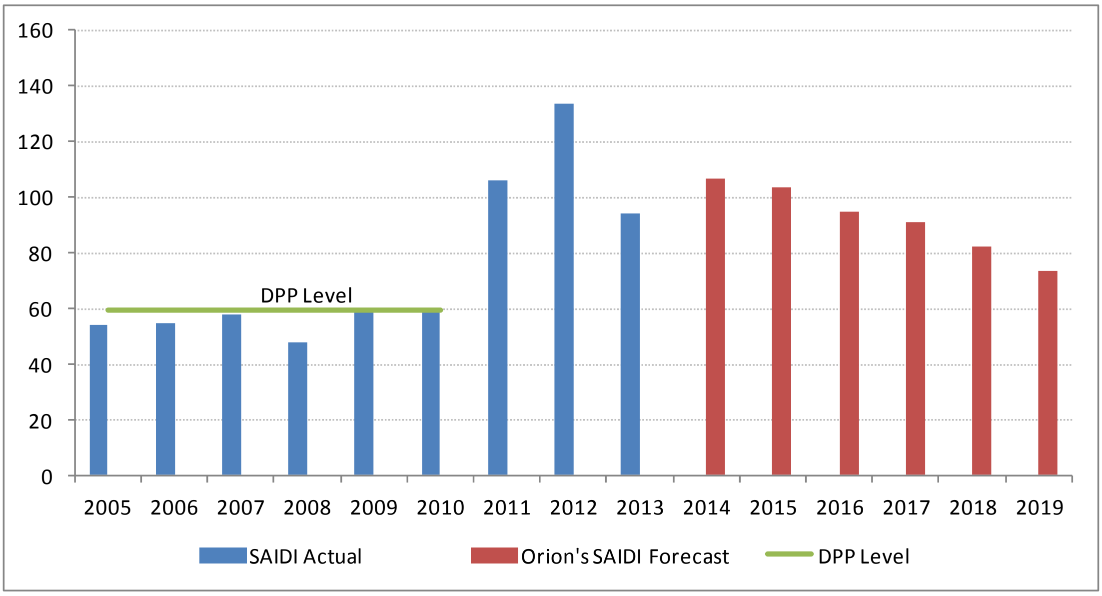
475 See Chapter 2, at paragraphs 2.21-2.22 and 2.42-2.45.

476 Orion's proposal (and our decision) means that Orion's SAIDI and SAIFI quality standards are expected to return to within 25% of the pre-earthquakes levels by 2019. Orion described this in its proposal as a return to "near pre-earthquakes levels". Orion "Proposal for a customised price-quality path" (19 February 2013), p.12.

L13 Figures L1 and L2 show Orion's pre-earthquakes reliability performance, and Orion's proposed variations to its reliability limits for the CPP period.[477]

L14 Figure L1 shows that SAIDI performance in 2013 was significantly below the limits forecast for 2014 and proposed for 2015.

Figure L1 - Orion's pre-earthquakes SAIDI and variation for the CPP

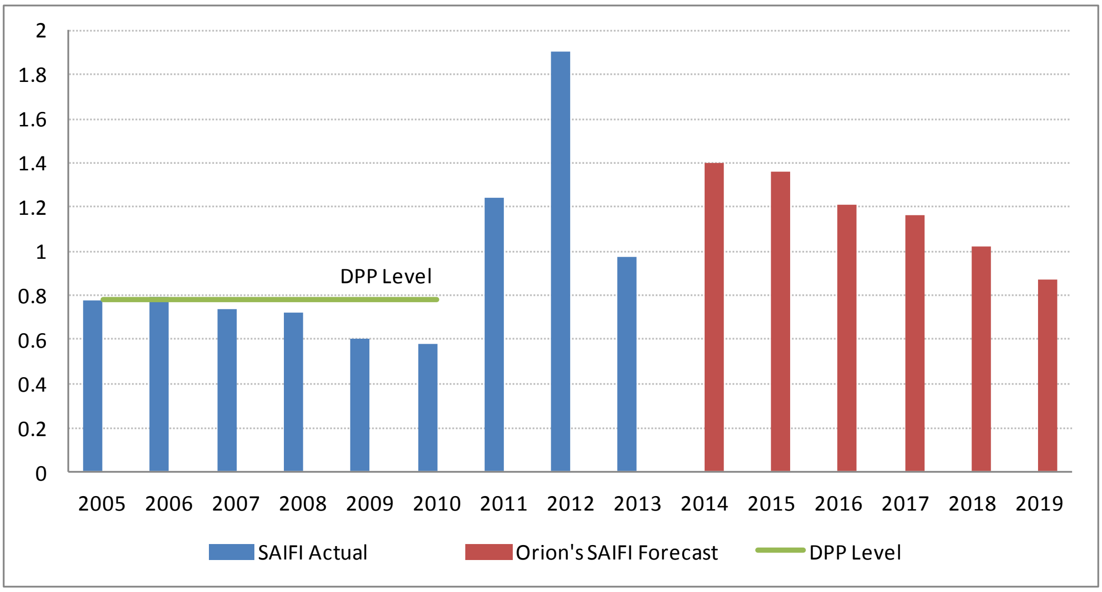


L15 Figure L2 shows that SAIFI performance in 2013 was significantly below the limits proposed for all the years in the CPP period except 2019.

---

477 The improvement in SAIDI and SAIFI performance over the CPP period is largely due to the expected reduction in the number of faults on parts of the network damaged during the earthquakes. Damaged assets will fail and be replaced over time. As a result, the number of assets remaining on the network which suffered earthquake damage will reduce, resulting in a decreasing number of failures over time.

Figure L2 - Orion's pre-earthquakes SAIFI and variation for the CPP



L16 Therefore, we observe that Orion's actual reliability performance may be better than it proposed. Other data we requested supports this view. Recent weather conditions, over the last few years, have resulted at times in wet ground conditions and high demand, which can trigger cable faults on damaged parts of cables. However, Orion's actual fault rates in 2013 were lower than assumed in their proposal which has resulted in performance that is better than (below) the reliability limits proposed for 2014.[478]

Our assessment of Orion's proposal against the evaluation criteria in the IMs

L17 Our criteria for evaluating CPP proposals including a quality standard variation are set out in the IMs.[479] Specifically, when evaluating Orion's proposed quality standard variations for our draft decision we evaluated the extent to which Orion's proposal better reflects the realistically achievable performance over the CPP period, taking into account either or both:

L17.1 statistical analysis of Orion's past SAIDI and SAIFI performance; and

L17.2 the level of investment provided for under the proposed opex and capex used by Orion to set its proposed maximum allowable revenue before tax.

L18 We applied both limbs of this evaluation criterion and included performance following the earthquake in the analysis of historic performance.

---

[478] Orion "Asset performance manual 2013" (2013), p.15.

[479] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1(e).

L19 In regards to the second limb, we have determined a level of expenditure that meets the expenditure objective. In doing so, a key step in applying the expenditure objective was determining the expenditure necessary to provide the service standards.

L20 Our view is that the appropriate long term service standards (as defined by reliability limits measured by SAIDI and SAIFI) is the pre-earthquake levels of reliability. Orion has proposed a path to return to this level over an extended period time resulting in proposed limits by the end of the CPP period that are within 25% of pre-earthquake levels.

L21 We have accepted these limits in the absence of any strong evidence that, in aggregate, Orion's consumers have a different view on either the long term level of reliability or pace at which they are achieved.

L22 For the purpose of applying the expenditure objective we have therefore used the service standards proposed by Orion (ie the reliability limits as measured by SAIDI and SAIFI).

L23 This approach has created a direct link between the level of investment provided for under the opex and capex used to set Orion's maximum allowable revenue and reliability limits.

Statistical analysis of Orion's past SAIDI and SAIFI performance

L24 In our view, the proposed quality standard variations for the assessed asset categories, and causes of interruptions, which are not affected by the earthquakes, are realistic. We consider the use of a method similar to that used in the DPP is appropriate, and that Orion has made the appropriate adjustments.

L25 In proposing its quality standard variations, Orion has used a forecast approach. It has used historical data to inform the likely frequency and duration of outages and the number of consumers affected for the CPP period.[480] This approach is consistent with the DPP method.

L26 Orion has used the updated historical reference period from 2008 to 2012 and, where appropriate, has included the effects of the earthquakes on failure rates. Orion's current DPP SAIDI and SAIFI limits were set using data over the period 2005 to 2009.[481]

---

480 Orion “Proposal for a customised price-quality path” (19 February 2013), p.125.
481 Orion “Proposal for a customised price-quality path” (19 February 2013), p.126.

L27 For parts of the network identified as not significantly impacted by the earthquakes, Orion has forecast SAIDI and SAIFI limits using the historical rate of interruptions. These interruptions have resulted from the following causes:

L27.1 third party damage to the 11 kV network;

L27.2 external factors (such as weather) for the 11 kV, 33 kV and rural 66 kV networks;

L27.3 planned outages for the 11 kV, rural 33 kV and rural 66 kV networks; and

L27.4 system failure for the 33 kV and rural 66 kV networks.[482]

L28 Orion has also identified four asset categories that were significantly impacted by the earthquakes. These are:

L28.1 the 11 kV urban network;

L28.2 the 11 kV rural network;

L28.3 the part of the 66 kV urban network that is not subject to staged rebuild; and

L28.4 the part of the 66 kV urban network that is subject to staged rebuild.[483]

L29 Orion has forecast the increased impact on SAIDI and SAIFI for these assets using 24 months of post-earthquake data from September 2010 to August 2012. It has then assumed a reduction in earthquake-driven failure rates over the CPP period.[484]

Level of expenditure and reliability limits

L30 As stated above, we consider that Orion's proposed quality standard variations are reasonable. However, we concluded that the level of expenditure proposed by Orion did not meet the 'expenditure objective' and was higher than the level of expenditure that would be required to meet the proposed reliability limits.

Our draft decision

L31 Our draft decision accepted Orion's proposed quality standard variation (ie, the changes to Orion's reliability limits, expressed in terms of SAIDI and SAIFI). On balance, we concluded that Orion's proposed variation to its quality standards met the evaluation criteria.

---

[482] Orion “Proposal for a customised price-quality path” (19 February 2013), p.127.
[483] Orion “Proposal for a customised price-quality path” (19 February 2013), pp.129-143.
[484] Orion “Proposal for a customised price-quality path” (19 February 2013), p.126.

L32 We noted that the proposed reliability limits were based on what appeared to be conservative assumptions on the future fault rate of assets impacted by the earthquakes, but also acknowledged that there was still uncertainty about future fault rates. We considered that there was a greater probability of actual reliability being better than forecast rather than worse (ie, SAIDI and SAIFI being below the set limits).[485]

L33 However, we explained we did not want to encourage over-investment by Orion, and did not want reliability limits to be exceeded too readily. This was because the failure rate of underground assets damaged in the earthquakes is largely outside Orion's control, at least in the near term.[486]

Submissions on our draft decision

Consumer consultation

L34 In its proposal, Orion stated that: [487]

> There were no written objections to our proposed CPP quality standards. In addition the numerous discussions we had with stakeholder groups during our CPP consultation supported our intention to restore network resilience and reliability.

L35 Our draft decision pointed to shortcomings in Orion's consultation methodology. Specifically, Orion's consultation provided consumers with only one price/reliability trade-off option and asked whether they wanted that outcome or not. By adopting this approach consumers were not informed of the price sensitivity of restoring reliability at a faster or slower rate than Orion had proposed or restoring to a level high or lower than was achieved historically.

L36 If Orion had provided more information on the cost of different options, consumers may well have expressed different preferences to the price/quality trade-off option that Orion had considered appropriate. In particular, consumers may have opted for a slower (less costly) return to the high reliability levels they received before the earthquakes occurred.

---

485 This provides 18 SAIDI minutes in 2015 which decreases to 4.1 SAIDI minutes in 2019 and SAIFI of 0.3 in 2015 which decreases to 0.07 in 2019. In comparison, Orion's pre-earthquake baseline SAIDI was 0.3 SAIDI minutes and SAIFI was 0.03.

486 In the near term, failure rates of underground assets will be primarily determined by the physical condition of the assets (including damaged but as-yet unfaulted components) and external environmental factors, such as ground water levels. As time goes on, Orion will be able to complete more cable testing and inspection, thus improving its ability to pre-empt faults by replacing deteriorated assets in advance of their failure.

487 Orion "Proposal for a customised price-quality path" (19 February 2013), p.156.

L37 Responses to our consultation indicated some price sensitivity on this issue, which Orion did not reflect in its proposal.[488] Also, some submitters criticised the Commission's consultation process. For example, Vector submitted that: [489]

> [S]ole reliance on the responses of the Commission's consultation is a risky approach…and limited weight should be given to this input on its own.

L38 We do recognise that it is difficult to draw unambiguous conclusions from consumer consultation about trade-offs between price and quality. In reaching our decision that Orion's proposed reliability limits were reasonable, we took consumers' views from both Orion's and our own consultation processes into account. On balance we have accepted that the pre-earthquake level of reliability is the appropriate long term target in the absence of any evidence that, in aggregate, Orion's consumers have a different view.

The impact of our lower expenditure allowance on proposed reliability limits

L39 Some submitters disagreed with our draft decision that Orion's proposed reliability limits could be delivered for less expenditure than Orion had proposed. These submitters implied that our lower expenditure allowance necessarily meant that higher SAIDI and SAIFI limits should be applied. For example: [490]

> It is not reasonable for the Commission to agree that specific security standards are appropriate, but then to refuse expenditure that is required to meet these.
>
> If the capex for the 66kV upgrades is disallowed it follows that the service quality improvements arising from those upgrades should also be removed.
>
> The Commission has considered Orion's quality path to be conservative, and has used this as the justification for not increasing SAIDI and SAIFI limits following reductions in Orion's expenditure forecasts. The evidence base behind this decision seems very limited (although we note that this may be due to the information that Orion is able to provide on the links between expenditure and quality).

---

488 For example Synlait Milk Limited "Response to Commerce Commission's 'Invitation to have your say on Orion's CPP proposal to change its prices and quality standards'" (31 May 2013), p.4.

489 Vector Limited "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013), p.5.

490 Vector Limited "Submission to the Commerce Commission on Orion CPP Draft Decision" (20 September 2013), p.23; Electricity Networks Association "Comment on the Draft Decision on Orion's CPP Application and Implications for the Future Implementation of Part 4" (18 September 2013), p.3; Powerco "Powerco submission to Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft Decision" (20 September 2013), pp.5-6; and Orion "Orion CPP proposal: Draft Decision" (20 September 2013), p.44.

> Accordingly, should the total level of capex and opex included in the draft decision (subject to correction of the errors identified since) be locked into our price path, our proposed quality standards must be adjusted.

L40 We agree with submitters that consideration must be given to the implications that adjustments in expenditure allowances will have on Orion's ability to achieve its proposed reliability limits.

L41 In response to our draft decision Orion submitted an: [491]

> [A]djusted expenditure plan [that] reduces prices to consumers within the CPP period, relative to our CPP proposal, while maintaining the same rate of improvement in our quality standards.

L42 Orion also submitted a revised set of reliability limits in response to our draft decision that it considered our expenditure allowances would imply (shown earlier in Table L1 and Table L2).[492]

L43 In response to Orion's submission, we issued Orion with a notice to supply information under section 53ZD of the Commerce Act. This included a requirement to supply quantitative information that explains the linkage between changes in expenditure (as input variables) and consequential changes in expected levels of quality (as outputs).[493]

L44 In response, Orion provided information on how it had calculated the revised reliability limits it had stated would be required as a result of our proposed reductions to opex and capex.

L45 We have considered this new information, and note that Orion's revised reliability limits are identical to the reliability limits in Orion’s CPP proposal, with two exceptions:

L45.1 a high level assumption is made that outages caused by 11kV rural and urban system failures will improve only half as fast as Orion forecast in its CPP proposal, resulting in an additional 30.9 SAIDI minutes in the CPP period; and

L45.2 an additional 4.7 SAIDI minutes of non-supply in 2019 caused by 66kV urban network failures due to not completing stage 2 of the proposed Waimakariri zone substation in 2018.

---

491 Orion “Orion CPP proposal: Draft Decision” (20 September 2013), p.80.
492 Orion “Orion CPP proposal: Draft Decision” (20 September 2013), p.81.
493 Commerce Commission “Section 53ZD notice to supply information - Background analysis on points made in Orion's submission” (9 October 2013).

L46 With respect to the 11kV rural and urban system failures, Orion has stated that it will continue to undertake the testing and inspection of 11kV equipment that will allow it to identify impending equipment failures. Our technical expert, Strata, considers that this is reasonable, as Orion has accepted the forecast opex allowances set out in the draft decision.[494]

L47 However, Orion also stated that it would not be able to replace 11kV equipment that through detailed condition assessment would trigger its replacement criteria because in its draft decision the Commission had reduced the replacement capex allowances by 30%. Orion argued that this would result in known substandard equipment remaining in service for an extended period, a situation Strata considers is unlikely in practice given the risks that Orion would be accepting. However, Strata considered the level of expenditure in the light of submissions and has recommended reducing the proposed replacement capex allowances by an average 25%.[495]

L48 Orion also states that rural network reliability performance would be adversely impacted by the reduced rural major capex expenditure allowances provided in our draft decision.

L49 Strata considers that having more or less rural subtransmission development would not impact the likelihood of 11kV failures. Orion's expenditure forecast includes a reinforcement allowance of around $4.5m annually that should enable situational relief of stressed 11kV feeders. Orion states that this reinforcement programme is not targeted at specific known situations, which indicates that there is considerable flexibility to target expenditure to the areas that would most benefit in terms of reliability improvement.

L50 We agree with Strata's assessment and do not accept Orion's submission that additional SAIDI minutes needed to be reflected in the reliability limits in the CPP period.

L51 With respect to L45.2, Orion states that it has removed the step improvement between 2018 and 2019 assumed in determining the reliability limits included in its proposal to reflect the completion of the Waimakariri zone substation to provide an N-1 security level.

---

494 Strata Energy Consulting Limited "Further advice on the Orion New Zealand Limited CPP proposal and submissions" (19 November 2013), pp.17-18.

495 Strata Energy Consulting Limited "Further advice on the Orion New Zealand Limited CPP proposal and submissions" (19 November 2013), p.35.

L52 Strata has noted that Orion has provided no detail of its calculation, as was requested in the information request, so a 4.7 SAIDI minute increase in 2019 remains unsubstantiated.[496]

L53 Strata has also noted that 66kV equipment is subject to very low failure rates in general and that an estimate of 4.7 SAIDI minutes per year for every year that Waimakariri is not upgraded to an N-1 security level seems very high, particularly as full 11kV backup is available to loads within this area following switching of supplies.[497]

L54 We agree with Strata's assessment and do not accept Orion's submission that additional SAIDI minutes are required in the CPP period for the 66kV urban network failures in the CPP period.

L55 In summary, based on advice from our technical expert, Strata, and in the absence of clear evidence that our expenditure allowances would reduce the reliability that Orion can deliver, we do not consider that it is appropriate to adjust Orion's original proposed reliability limits.

Orion submission on the draft determination

L56 In its submission on the draft determination Orion proposed that the reliability limits be adjusted to reflect the adjustment to remove the price path effects of proposed Transpower spur asset acquisitions in the CPP period.[498] We have considered the proposed adjustments and concluded that they do not have a material impact on the SAIDI and SAIFI reliability limits when taken as a whole. In our final decision we have not adjusted the original proposed reliability limits for this matter.[499]

Our final decision

L57 Submissions on our draft decision did not change our view. Our final decision remains that Orion can achieve the reliability limits it set out in its CPP proposal for less expenditure than it proposed. We consider that this is particularly the case where Orion's proposed expenditure provided for investments to meet more onerous security standards than the ones Orion used prior to the earthquakes and the plans it set out in its 2010 Asset Management Plan. Removing this expenditure

---

496 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Limited CPP Proposal and submissions Report to the Commerce Commission" [19 November 2013], p.18.

497 Strata Energy Consulting Limited "Technical Advisor Report Further advice on the Orion New Zealand Limited CPP Proposal and submissions Report to the Commerce Commission" [19 November 2013], p.18.

498 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), pp.21-22.

499 The reasons for our decision is set out in Appendix M on spur assets.

has no impact on Orion's ability to meet the reliability limits it proposed for the CPP period.[500]

L58 We do not consider that the lower expenditure allowances in our final decision relative to those proposed in Orion's CPP proposal require us to alter the reliability limits proposed by Orion. We agree with Strata's view that the impacts on SAIDI and SAIFI indicated by Orion in its submission on our draft decision are not robust and/or are unsubstantiated.

L59 Although our decision reflects a slower rate of maintenance and development work than Orion has proposed, the resulting decrease in network performance is relatively small.

L60 Our expenditure allowances and the changes to Orion's reliability limits are adequate to deal with the increased failure rates on the parts of the network that have been damaged by the earthquakes. Over time, as damaged parts of the network fail and are subsequently replaced, reliability is expected to return to closer to historical levels as indicated in Orion's CPP proposal.[501]

---

[500] This is discussed in more Strata's report, see Strata Energy Consulting Limited “Further advice on the Orion New Zealand Limited CPP proposal and submissions” (19 November 2013), at pp.17-18.

[501] Orion's actual SAIDI and SAIFI performance in 2013 shows strong improvement relative to 2012, and is below 2011 levels (performance in 2011 was only partially affected by the earthquakes).

Attachment M: Spur assets

Purpose of this attachment

M1 This attachment discusses the proposed purchase of spur assets by Orion from Transpower.

Summary of our final decision

M2 The forecast purchases of spur assets and associated forecast replacement capex in the CPP period are not included in the calculation of the BBAR for the CPP period. However, the value of each acquisition will be included in Orion's RAB from each date of acquisition for information disclosure purposes.

M3 The EDB IMs limit the RAB value that can be applied to the spur assets by Orion to the RAB value in Transpower's books before the acquisitions, so the value of the transaction in terms of what enters the RAB is set by the IM.[502]

M4 Actual and forecast purchases prior to the start of the CPP period are included in the RAB for the purposes of calculating the BBAR and are therefore reflected in the price-quality path where the transaction has already occurred or where contracts are in place for purchase prior to 1 April 2014.

M5 Orion is able to include the avoided transmission charges as recoverable costs for five years from the date of acquisition in each case.[503] Avoided transmission charges treated as recoverable costs must be calculated in accordance with the EDB IMs.

M6 Avoided transmission charges for the spur asset acquisitions made prior to the CPP period (ie, Papanui and Springston) are pass-through costs in the 2013 and 2014 years under the current 2010 DPP determination, and are recoverable costs in the disclosure years within the CPP period, with a limitation of five years from the date of acquisition.

M7 The outcome of our final decision has an equivalent financial outcome for Orion and consumers as that intended to apply in our draft decision. We have refined how the decision is implemented so that it is simpler, and is more consistent with the IMs on the treatment of asset acquisitions from Transpower and associated recoverable costs.

---

[502] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 2.2.11(1)(e) which applies to information disclosure.

[503] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 3.1.3(4).

What Orion proposed

M8 Orion has commenced a programme of spur asset acquisitions from Transpower. The programme will effectively bring all major distribution network assets in Orion's area under Orion management. Orion is proposing to acquire approximately $36.8m of Transpower assets (at current RAB values).

M9 In its CPP proposal, Orion submitted:[504]

> These spur assets are dedicated to supplying Orion's network and serve the purpose of local distribution rather than national transmission. A change of ownership therefore enables synergies and efficiencies to be gained through integration into local distribution asset planning, management, maintenance and operations. Thus the main aim of this project is secure a change of ownership of spur assets so that future network efficiencies and benefits will ultimately flow through as benefits for our consumers. For example the recent purchase of the 66kV assets at Papanui will enable us to defer the replacement of the 66/11kV transformers and have greater flexibility in the architecture of our sub transmission network which is expected to lead to a saving of more than $5m. Similar benefits are expected across all spur assets purchase projects.

M10 Table M1 outlines the schedule of proposed purchases shown in Orion's CPP proposal and summarises how Orion proposed to recover costs.

Table M1 - Proposed schedule of spur asset acquisitions

Spur Asset Site and Transfer Date		FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
		1April 12 - 31 March 13	1April 13 - 31 March 14	1April 14 - 31 March 15	1April 15 - 31 March 16	1April 16 - 31 March 17	1April 17 - 31 March 18	1April 18 - 31 March 19	1April 19 - 31 March 20	1April 20 - 31 March 21	1April 21 - 31 March 22
Papanui 1 Aug 12 (note part year timing not shown in diagram)											
Springston 1 Aug 13 (note part year timing not shown in diagram)											
Middleton 31 Mar 15											
Addington 31 Mar 15											
Arthurs Pass 31 Mar 15											
Castle Hill 31 Mar 15											
Hororata 31 Mar 16											
Bromley 31 Mar 16											
Islington 31 Mar 17											
Full recoverable cost as allowed under DPP											
Return capped at transpower charges											
Return based on BBAR											

M11 Orion proposed that its spur asset acquisitions should be treated the same as any other capex proposed within the CPP period. On this basis, spur asset expenditure would form a part of the setting of prices under the CPP price path.

M12 Since submitting its CPP proposal, Orion has advised the Commission that the forecast acquisition dates shown in Table M1 have changed. However, this does not

504 Orion "Proposal for a customised price-quality path" (19 February 2013), p.499.

result in any proposed purchases falling in different periods and therefore this does not affect our conclusions on the treatment of the proposed acquisitions.

Our draft decision

M13 In our draft decision we adopted Orion's approach of including the proposed spur asset purchases in the calculation of the price path.

M14 The IMs contain an incentive mechanism that encourages EDBs to buy assets from Transpower and rationalise them within their distribution networks where efficiency savings will arise from the acquisitions. The benefits of any cost saving for the first five years of ownership are retained by the EDB and after that the EDB is required to pass the cost savings to its consumers.[505]

M15 Under the 2010-2015 DPP reset, EDBs are able to recover recoverable costs from consumers. These are defined in the IMs to include Transpower's transmission charges paid by Orion and any amount of Transpower's charges that Orion avoids by purchasing Transpower assets.[506]

M16 In order to maintain the intended incentives for the purchase of transmission assets, our draft decision required Orion to include an additional negative recoverable cost term equal to the aggregated amount of costs associated with spur assets already allowed for in the BBAR.[507]

M17 The draft determination applied similar rules for the calculation and disclosure of recoverable costs as those that apply to other non-exempt EDBs under the 2010-2015 DPP reset, with the exception of the additional recoverable cost adjustment described above.

M18 For the spur assets acquired at Papanui and Springston prior to the CPP period it was proposed that a mixed treatment would apply. The avoided transmission charges are pass-through costs under the 2010 DPP determination in the 2013 and 2014 years.[508] In the CPP period the avoided transmission charges relating to these assets fall within the definition of recoverable costs in the EDB IMs and the five year incentive rule on recovery in prices applies for the balance of the five years from the original year of acquisition. For example, Table M1 shows that for the Papanui acquisition

---

505 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 3.1.3(4).

506 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26,clauses 3.1.3(1)(b)-(e).

507 Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision” (14 August 2013), paragraph J7.

508 *Electricity Distribution Services Default Price-Quality Path Determination 2010* (Commerce Commission Decision 685, 30 November 2009), clause 4.1, definitions of 'avoided transmission charge', 'transmission charge' and 'pass-through costs'.

Orion may recover three years of recoverable costs within the CPP period and for the Springston acquisition Orion may recover four years of recoverable costs within the CPP period.

M19 To protect the interests of consumers, we proposed that certain conditions would apply:

M19.1 the Commission must approve the amount of each avoided charge by specifying the amount by way of formula in the applicable price-quality path determination;[509]

M19.2 Orion may claim an avoided charge as a recoverable cost for the first five years of ownership only;[510] and

M19.3 Orion must make disclosures each year of the amounts it has treated as avoided charges in recoverable costs.[511]

M20 In our draft decision we adopted Orion's approach of including the proposed spur asset purchases in the calculation of the price path. We then reduced the aggregate amount of recoverable costs in every disclosure year of the CPP period by the estimated BBAR relating to the spur assets in each of those years, irrespective of whether there was a recoverable cost component associated with avoided transmission charges.

Submissions on our draft decision

M21 In response to our draft decision and our draft CPP determination, Orion submitted that its spur asset purchases require an adjustment to the reliability limits (ie, SAIDI and SAIFI) to exclude the impact of the forecast spur asset purchases in order to "…accommodate the impact of transfers, recognising the actual transfer dates".[512]

M22 In its submission, Orion provided tables of adjustments that would have the effect of removing the portion of SAIDI and SAIFI relating to the purchases from SAIDI and SAIFI values in the draft determination.[513]

M23 Our draft decision accepted the SAIDI and SAIFI reliability limits proposed by Orion.[514] These limits included the assumed impact of the spur assets on reliability

509 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 3.1.3(2).

510 *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 3.1.3(4).

511 *Electricity Distribution Services Default Price-Quality Path Determination 2012*, [2012] NZCC 35, clauses 11.3(c), (d), and 11.4.

512 Orion "Orion CPP Proposal: Draft Determination" (30 September 2013), p.16.

513 Orion "Orion CPP Proposal: Draft Determination" (30 September 2013), p.16.

(based on the assumed transaction timing). The outcome of this approach was the forecast impact of spur asset purchases on reliability was accounted for within the draft reliability limits.

Our final decision

M24 Our final decision is to implement Orion's spur asset purchases for the purpose of Orion's price path as follows.

M24.1 We have excluded the proposed purchases and associated forecast replacement capex costs in the CPP period from the BBAR and hence from the price path calculation for the CPP period. This removes the need for Orion to reduce the aggregate annual amounts of recoverable costs by amounts already allowed for in the BBAR, as these are now zero.

M24.2 We do not considered the adjustments of SAIDI and SAIFI proposed by Orion to be material to the proposed reliability limits overall, and have retained Orion's original proposed SAIDI and SAIFI values which included the forecast impact on reliability of the proposed spur asset purchases.[515]

M25 Our final decision changes the way we dealt with spur asset purchases in our draft decision. Although we have changed the mechanism by which we have addressed spur asset acquisitions for the purposes of Orion's price path, this is not intended to change the financial impact of the proposed acquisitions on Orion.[516]

M26 We consider that the approach used in our final decision is simpler and is more consistent with the IMs that deal with the treatment of asset acquisitions from Transpower and associated recoverable costs.

---

514 Commerce Commission “Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision” (14 August 2013), paragraph L19.

515 See Attachment L.

516 In removing the portion of the BBAR relating to the spur assets from the price path calculations for our final decision we identified that the proposed adjustment to recoverable costs under our draft decision had been overstated by approximately $4.4m due to the incorrect inclusion in the adjustment of the two projects that were forecast to be completed before the CPP period (ie, the Papanui and Springston acquisitions). This correction would have been made in either case on making our final decision and has no impact on the relative financial neutrality of the two alternative approaches.

Attachment N: Cost escalation factors

Purpose of this attachment

N1 This attachment discusses the cost escalators Orion has used to account for changes in input prices over time, including in particular:

N1.1 the rate of escalation in Canterbury construction labour costs;

N1.2 NZD / USD exchange rates; and

N1.3 the use of the producer price index.

Summary of our final decision

N2 Orion adjusted its proposed unescalated capex and opex forecasts for expected changes in input prices over time. Orion proposed forecasts of how it expects prices of inputs (such as labour and materials) to change over the regulatory period. Orion used these price escalation forecasts together with weighting factors to adjust its forecasts of unescalated capital and operating expenditure.

N3 This attachment summarises Orion's approach to developing expenditure escalators and the various assumptions it made, and our assessment.

N4 We have assessed the escalators proposed by Orion against the relevant CPP evaluation criteria.[517] The two criteria that are most relevant to escalators are:

N4.1 the extent to which the data, analysis and assumptions used in developing them are fit for purpose; and

N4.2 when applying the escalators to expenditure, the extent to which they meet the expenditure objective.

N5 Orion's overall approach to developing cost escalators is appropriate. However, when we assessed the data, analysis and assumptions we found that some results overestimated the expected growth in Orion's input prices over the CPP regulatory period.

N6 As a result, applying Orion's escalators would result in opex and capex forecasts that are above the amount required to meet the expenditure objective.

N7 Some of the assumptions we used in setting the customised price path therefore differ from those proposed by Orion:

---

[517] *Electricity Distribution Services Input Methodologies Determination 2012* [2012] NZCC 26, clause 5.2.1.

N7.1 we used a forecast of construction labour costs developed by NZIER instead of the forecast contained in Orion's proposal or its submission on the draft decision;

N7.2 we used forward foreign exchange rates taken from Bloomberg instead of Orion's forecast of foreign exchange rates (based on an NZIER forecast and extrapolation).

N8 In this final decision, we have not changed other assumptions that Orion proposed in relation to expenditure escalators. We have however updated some forecasts to reflect the most up to date data.

N9 The combined impact on maximum allowable revenue of replacing those assumptions is illustrated graphically in Chapter 4, and summarised in Table N1.

Table N1 - Comparison between Orion and Commission escalators on opex and capex allowances (in $m)

	2015	2016	2017	2018	2019	Total
Orion's Cost Escalators	130.1	117.1	112.4	121.9	108.8	590.3
Our Cost Escalators	122.4	110.0	106.9	114.9	99.9	554.1
Difference	(7.7)	(7.1)	(5.4)	(7.1)	(8.9)	(36.1)

Note: nominal values. Cost escalators changed include: Updated PPI, canterbury Construction Index, FX rates and Materials indices

N10 The following tables compare the inputs that were proposed by Orion, used in the draft decision, submitted by Orion on the draft decision and those applied in the final decision.

N11 Table N2 below compares the forecasts of Canterbury construction labour cost escalators proposed by Orion (based on the opinion of three quantity surveyors), those we used in the draft and final decisions (developed by NZIER), and the forecast in Orion's submission on the draft decision (Infometrics' forecast).

Table N2 - Comparison of Orion’s proposal, the draft decision, Orion’s submission and the final decision for Canterbury construction labour cost escalation (year-on-year % change)

	2014	2015	2016	2017	2018	2019
Orion's Proposal	7.50	7.50	7.50	5.00	5.00	5.00
Draft Decision	3.70	4.50	5.50	6.20	-2.40	-2.90
Orion's Submission	7.20	6.20	7.60	4.70	4.00	1.40
Our Final Decision	3.70	4.50	5.50	6.20	-2.40	-2.90

N12 Table N3 below compares the forecasts of the NZ dollar/US dollar exchange rates proposed by Orion (based on NZIER's forecast and extrapolation), the one we used in the draft decision (the forward NZ dollar/US dollar exchange rates reported by Bloomberg), the updated forecast in Orion's submission on the draft decision and the updated forward rate forecast we used in the final decision.

Table N3 - Comparison of Orion's proposal, the draft decision, Orion's submission and the final decision for NZ dollar/US dollar exchange rates

	2014	2015	2016	2017	2018	2019
Orion's Proposal (NZIER and extrapolation)	0.780	0.752	0.690	0.655	0.655	0.655
Draft Decision (Bloomberg forward exchange rates)	0.762	0.739	0.717	0.700	0.683	0.670
Orion's Submission (Updated NZIER and extrapolation)	0.798	0.779	0.767	0.752	0.693	0.693
Our Final Decision (Updates Bloomberg forward exchange rates)	0.842	0.815	0.784	0.756	0.734	0.715

N13 Table N4 below compares the forecast in Orion's proposal for input price growth for capital expenditure on non-system fixed assets and non-labour operating expenditure (a forecast of PPI) with that in the draft decision (a forecast of the CPI) and that adopted in the final decision (an updated forecast of the PPI).

Table N4 – Comparison of Orion's proposal, the draft decision, Orion's submission and the final decision for cost escalators for capital expenditure on non-system fixed assets and non-labour operating expenditure (year-on-year % change)

	2014	2015	2016	2017	2018	2019
Orion's Proposal (PPI)	3.04	3.32	3.65	3.20	3.20	3.20
Draft Decision (CPI)	1.11	1.75	2.16	2.16	2.16	2.16
Orion's Submission (Updated PPI)	1.68	2.80	2.75	3.12	3.40	3.40
Our Final Decision (Updated PPI)	1.68	2.80	2.75	3.12	3.40	3.40

What Orion proposed

Orion's proposed approach for adjusting expenditure for expected changes in input prices

N14 Orion adjusted its proposed capex and opex for expected changes in input prices. The approach involves:

N14.1 developing forecasts of various inputs that Orion considers affect the price of capital and operating expenditure over time;

N14.2 for each project, allocating the expenditure into relevant categories;

N14.3 determining weighting factors that reflect the share that different inputs make up in the different cost or asset categories (some of the weighting factors change over time); and

N14.4 applying the input price indices and weighting factors to the various categories of proposed expenditure at the project level.

N15 Orion stated that its approach for adjusting input prices is based on that adopted in other jurisdictions.[518] It specifically considered the approaches used by Ofwat (the regulator of water companies in England and Wales), Ofgem (the UK energy networks regulator), and the Australian Energy Regulator.

Orion's proposed approach for adjusting capital expenditure for expected changes in input prices

N16 Orion's approach for adjusting for expected changes in the price of its proposed capital expenditure involves:

N16.1 developing forecasts of inputs that in Orion's view affect the price of capital expenditure over time (Canterbury construction labour costs, various commodities, exchange rates, producer prices);

N16.2 for each project, allocating the capital expenditure to the following asset categories:

N16.2.1 66kV underground cables;

N16.2.2 other underground cables;

N16.2.3 overhead line conductors;

N16.2.4 transformers;

N16.2.5 switchgear; and

N16.2.6 other;

[518] Orion "Proposal for a customised price-quality path" (19 February 2013), pp.574-576.

N16.3 determining weighting factors that reflect the share that different inputs make up in the different asset categories (some of the weighting factors change over time); and

N16.4 applying the input price indices and weighting factors to the various categories of proposed expenditure at the project level.

N17 Orion proposed forecasts for Canterbury construction labour cost escalation, the price changes of various commodities, NZ dollar/US dollar exchange rates and the input price changes faced by producers. These forecasts apply to a varying extent (determined by weighting factors) to all expenditure on electricity system fixed assets (broken down into various asset categories). For non-electricity system fixed assets, Orion used a forecast of producer prices.

N18 Table N5 below summarises the forecasts that Orion used to adjust its proposed capital expenditure for expected changes in input prices.

Table N5 – The forecast that Orion proposed to use to adjust capital expenditure for changes in input prices (year-on-year % change)

	2014	2015	2016	2017	2018	2019
Construction labour Index	7.50	7.50	7.50	5.00	5.00	5.00
Commodity prices						
Aluminium	18.11	9.03	6.57	4.36	4.24	2.86
Copper	7.44	-4.60	-8.63	-5.05	-3.08	3.61
Iron Ore	4.46	-7.70	-5.77	-7.13	-4.02	7.51
Crude oil	3.51	3.71	3.36	2.66	2.77	2.18
Producer prices (PPI)	3.04	3.32	3.65	3.20	3.20	3.20

N19 Orion also proposed to adjust the price of commodities for expected fluctuations in the NZ dollar/US dollar exchange rate. Its proposed forecast (based on NZIER's forecast up to 2017 and an extrapolation of that forecast after that) is set out in Table N6 below.

Table N6 – The forecast NZ dollar/US dollar exchange rates that Orion proposed to use in forecasting commodity prices

	2014	2015	2016	2017	2018	2019
NZ dollar / US dollar exchange rate	0.780	0.752	0.690	0.655	0.655	0.655

N20 Orion developed weighting factors that reflect the share of each commodity in different asset components based on Orion's engineering judgement. These weighting factors are set out in Table N7 below.

Table N7 – Orion's proposed factors to determine the weight of each commodity in different asset components

Asset component	Commodity	Weighting (%)
66kv underground cables	Copper	100
Other underground cables	Aluminium	95
	Copper	5
Overhead line conductors	Aluminium	95
	Copper	5
Transformers	Steel	45
	Copper	50
	Oil	5
Switchgear	Copper	75
	Steel	25

N21 Table N8 below sets out for each of the inputs the data sources Orion has used in developing its forecast, and the date on which the information was published.

Table N8 – Information and publication date of information Orion used to develop capital expenditure escalators

	Forecast source	Date published
Construction labour Index	Orion, based on the opinion of three local quantity surveyor firms of expected changes in the price of Canterbury construction labour	October 2012
Commodity prices		
Aluminium	World Bank commodiy prices forecasts	Sept. 2012
Copper	World Bank commodiy prices forecasts	Sept. 2012
Iron Ore	World Bank commodiy prices forecasts	Sept. 2012
Crude oil	World Bank commodiy prices forecasts	Sept. 2012
Prodcer prices	NZIER, Quarterly Predictions, PPI	Sept. 2012
NZ dollar / US dollar exchange rate	Orion, based on NZIER Quarterly Predictions and extrapolation	Sept. 2012

Source: Orion's CPP proposal, p 580.

Orion's proposed approach to adjusting operating expenditure for expected changes in input prices

N22 Orion's approach to adjust for expected changes in the price of its proposed operating expenditure involved:

N22.1 developing forecasts of inputs that in Orion's view affect the price of operating expenditure over time (such as labour costs and producer prices);

N22.2 determining weighting factors that reflect the share that different inputs make up in the different categories of expenditure (the weighting factors for operating expenditure do not change over time); and

N22.3 applying the input price indices and weighting factors to the various categories of proposed expenditure at the project level.

N23 Orion proposed forecast escalation factors for two types of labour, and for a subset of other costs faced by producers:

N23.1 for field work labour costs Orion applied the same forecast of Canterbury construction labour cost escalation as the one it proposed to use in forecasting capital expenditure;

N23.2 for non-field work labour costs (such as corporate and network management operations) Orion applied a New Zealand wide forecast of labour cost escalation; and

N23.3 for materials and other non-materials expenditure Orion applied a forecast of producer price escalation.

N24 Table N9 below summarises the forecasts that Orion proposed to use to adjust its proposed operating expenditure for expected changes in input prices.

Table N9 – The forecasts that Orion proposed to use to adjust operating expenditure for changes in input prices (year-on-year % change)

	2014	**2015**	**2016**	**2017**	**2018**	**2019**
Network labour cost	7.50	7.50	7.50	5.00	5.00	5.00
Non network labour cost	1.92	1.97	2.61	2.16	2.16	2.16
Producer prices: PPI (non labour costs)	3.04	3.32	3.65	3.20	3.20	3.20

N25 Table N10 below sets out for each of the inputs the data sources Orion has used in developing its forecasts of input price escalation for operating expenditure, and the date on which the information was published.

Table N10 – Information and publication date of information Orion used to develop operating expenditure escalators

	Forecast source	Date published
Construction labour Index	Orion, based on the opinion of three local quantity surveyor firms of expected changes in the price of Canterbury construction labour	October 2012
Non-construction labour cost	NZIER, Quarterly Predictions, Labour Cost Index	Sept. 2012
Materials and other non-materials	NZIER, Quarterly Predictions, PPI	Sept. 2012

Source: Orion's CPP proposal, p 580.

Our final decision

N26 In this section our decision to replace some of Orion's forecasts with alternative forecasts, along with our reasons for these decisions. We also set out our response comments from submissions on our draft decision and briefly discuss the assumptions which we have not changed and outline the forecasts we have updated for our final decision.

Orion's approach to developing forecasts of expenditure escalators is appropriate

N27 Overall, we consider that Orion's approach to developing expenditure escalators is appropriate. The approach it proposed is broadly similar to that used in other jurisdictions and by Transpower in its opex capex review for the period 2012/13 to 2014/15, which we assessed.[519]

N28 However, while we agree with the overall approach, in setting the customised price path we have used several assumptions that differ from those proposed by Orion.

N29 Orion's choice of some assumptions leads to expenditure escalators that overestimate the expected growth in input prices over the regulatory period. As a result, applying Orion's escalators would result in opex and capex forecasts that are higher than the amount required to meet the expenditure objective.

We replaced Orion's forecast of construction labour cost with NZIER's forecast

N30 We do not consider that all of the data, analysis and assumptions Orion used to develop the forecast of Canterbury construction labour cost escalation result in a forecast that reflects the expected growth in the price of inputs that Orion intends to

519 Refer to www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-price-path-compliance/opex-capex-review-2012-13-2014-15/

use over the regulatory period. We consider that Orion's forecasts overestimate the expected growth in input prices over the regulatory period.

N31 In Orion's submission it acknowledged its proposed construction labour cost escalation forecast was too high and submitted another set of construction labour cost escalation forecasts.[520]

Our draft decision

N32 Orion's proposed Canterbury construction labour cost index does not meet the expenditure objective. Applying Orion's escalators would result in opex and capex forecasts that are above the amount required to meet the expenditure objective.

N33 The verifier noted in its report that using a Canterbury specific labour cost index was reasonable as labour cost growth could be higher than the overall national cost. However, the verifier commented that the range of estimates made by the quantity surveyors was wide.[521]

N34 We canvassed the views of various agencies on the likely construction labour cost pressures in Canterbury over the regulatory period, including officials from the Ministry of Business, Innovation & Employment, the Treasury, the Reserve Bank of New Zealand and the Canterbury Earthquake Recovery Agency. While none of the agencies had developed their own quantitative forecasts of construction price growth in Canterbury, the information and analysis they had undertaken suggested that Orion's proposed forecast was too high.

N35 We therefore asked NZIER to advise us on the reasonableness of Orion's labour cost escalators.[522]

N36 NZIER concluded that:[523]

> … Orion's escalation assumptions are too high. This is based on our analysis of an economic thought exercise, historical experience and international experience. Orion's projection of a sustained period of 5%-7.5% wage inflation would see labour costs stretch away from national trends in a persistent manner. Such a sustained deviation in labour costs is unprecedented in New Zealand and internationally, and contrary to economic logic that supply and demand respond to price signals over time.

---

520 Orion New Zealand Limited "Orion CPP Proposal: Draft Decision" (20 September 2013), p.70.

521 Geoff Brown & Associates Ltd "Verification report and certificate", in Orion "Application for a customised price-quality path" (19 February 2013), Appendix 7, pp.77-78.

522 New Zealand Institute of Economic Research (NZIER) "Canterbury Labour Cost Escalation: Assessment of Orion's projections" (17 June 2013).

523 New Zealand Institute of Economic Research (NZIER) "Canterbury Labour Cost Escalation: Assessment of Orion's projections" (17 June 2013), p.1.

N37 NZIER acknowledges the uncertainty in how the labour market will respond to the significant task of rebuilding Canterbury. However, a labour supply response that reduces wage growth can be expected, making the sustained increase in labour costs as assumed by Orion in its proposal very unlikely.[524]

N38 We do not consider that Orion's proposed forecast of construction labour cost is based on appropriate assumptions. We agree with Orion in its proposal that for the purpose intended the Canterbury labour construction index is the appropriate index to forecast. However, Orion's proposed forecast, based on three quantity surveyors' views, is likely to miss important supply and demand adjustments that can be expected to occur in labour markets.[525] This means that Orion's proposed forecast overestimates the expected growth in construction labour costs.

N39 We therefore asked NZIER to develop a forecast of the changes in Canterbury construction labour cost (as a proxy for field work labour cost in Canterbury) over the regulatory period.[526] NZIER's forecast was subsequently adopted in our draft decision.

Submissions on our draft decision

N40 In Orion's submission on the draft decision it acknowledged its proposed forecast was too high and asked Infometrics to provide an independent forecast of labour costs.[527] Based on the Infometrics report Orion held that the forecast the Commission used in the draft decision were too low. Infometrics argues that NZIER's forecast is too low because of its assumptions in relation to the role of international evidence, the size of the rebuild and wage symmetry.[528]

N41 Infometrics questions whether it makes sense to compare construction sector wage inflation in Canterbury with wage inflation following the Kobe earthquake.[529] Infometrics observes that the scale of reconstruction in Kobe was a smaller share of the Japanese economy than the Canterbury reconstruction effort is as a share of the

---

[524] New Zealand Institute of Economic Research (NZIER) "Canterbury Labour Cost Escalation: Assessment of Orion's projections" (17 June 2013), p.12. In addition, while NZIER's modelling report does not explore this in detail, faced with very high input prices, the market demand for construction services might adjust (for example, by spreading out construction work over a longer period).

[525] Orion asked three quantity surveyors' views but calculated its forecast on the estimates of only two.

[526] NZIER's modelling makes a number of assumptions, a key assumption being the timing of the rebuild effort. For a discussion of NZIER's modelling refer to the July report. NZIER's model was built in the software package Vensim. New Zealand Institute of Economic Research (NZIER) "Labour cost escalation in Canterbury" (July 2013), p.14.

[527] Orion New Zealand Limited "Orion CPP Proposal: Draft Decision" (20 September 2013), p.70.

[528] Infometrics "Investigation of construction costs in Canterbury for Orion New Zealand Ltd", in Orion "Orion CPP Proposal: Draft Decision" (20 September 2013), Attachment C, p.31-32.

[529] Infometrics "Investigation of construction costs in Canterbury for Orion New Zealand Ltd", in Orion "Orion CPP Proposal: Draft Decision" (20 September 2013), Attachment C, p.32.

New Zealand economy. In NZIER's comments on Orion's submission and Infometrics' forecasts it notes that the size of the rebuild relative to the rest of the economy only tells part of the story.[530] Other factors such as whether new workers can be attracted to the area, the price required to attract those workers and whether those paying are willing to accept those prices are of central importance.

N42 It was not NZIER's intention to extrapolate international experience to the New Zealand situation. Instead NZIER sought to observe broad trends such as, the observation that "comparatively fast increases in wages are associated with subsequent rapid and deep declines" following a natural disaster.[531]

N43 Infometrics has raised questions regarding the reasonableness of assuming that wages can fall as quickly as they rise.[532] Infometrics claims this assumption is at odds with the consensus view within the economics profession that there is a downward stickiness to nominal labour costs.

N44 In NZIER's comments on Orion's submission and Infometrics' forecasts it reasons the assumption of wage symmetry is appropriate for modelling extreme changes in demand.[533] NZIER assumes that wage offers for new construction projects are capped at a 1% increase or decrease per month. These changes do not apply to people who are already employed on projects. This has the effect that when demand for construction workers falls, overall labour costs fall much more slowly.

N45 Infometrics considers NZIER should have modelled a larger construction task.[534] NZIER uses $27.6bn as an appropriate measure of the increase in the volume of reconstruction work.[535] An alternative estimate of the rebuild cost is $40bn (recently estimated by the Treasury, plus or minus $5bn). All estimates of the volume of reconstruction work are subject to considerable uncertainty.[536]

530 New Zealand Institute of Economic Research (NZIER) “Measuring labour cost escalation in Canterbury - Comments on Orion’s submission and Infometrics forecasts” (4 October 2013), p.4.

531 New Zealand Institute of Economic Research (NZIER) “Measuring labour cost escalation in Canterbury - Comments on Orion’s submission and Infometrics forecasts” (4 October 2013), p.5.

532 Infometrics “Investigation of construction costs in Canterbury for Orion New Zealand Ltd”, in Orion “Orion CPP Proposal: Draft Decision” (20 September 2013), Attachment C, p.32.

533 New Zealand Institute of Economic Research (NZIER) “Measuring labour cost escalation in Canterbury - Comments on Orion’s submission and Infometrics forecasts” (October 2013), p.3-4.

534 Infometrics “Investigation of construction costs in Canterbury for Orion New Zealand Ltd”, in Orion “Orion CPP Proposal: Draft Decision” (19 September 2013), Attachment C, p.31.

535 New Zealand Institute of Economic Research (NZIER) “Labour cost escalation in Canterbury” (July 2013), p.14.

536 See, for example, The Treasury "Budget 2013" (July 2013), B.3, p.15. www.treasury.govt.nz/budget/forecasts/befu2013/befu13-pt3of11.pdf.

N46 NZIER notes in comments on Orion's submission and Infometrics' forecasts that its forecasts would not necessarily be higher if it had assumed a larger rebuild as suggested by Infometrics. NZIER notes (emphasis added):[537]

> A rapid rebuild has the effect of increasing the size of the task at hand. A rapid rebuild then leads to a more rapid labour cost escalation ... The prospect of rapid inflation then encourages people to defer or cancel reconstruction plans. Deferral of construction projects has the effect of reducing the size of the task at hand and reducing upward pressure on wages. **The absolute size of the rebuild matters, but not as much as other issues such as questions of timing**.

N47 Increasing the size of the rebuild would have required NZIER to re-examine the assumptions made on whether the amount of work done every period is feasible. The feasibility depends, among other things, on the total amount of work and the time over which the work is assumed to be completed.[538] Changing one assumption, such as increasing the size of the rebuild, may require a change in timing to ensure the forecast work is feasible. Therefore an increase in the size of the rebuild would not necessarily lead to higher labour cost escalation.

N48 On balance we consider NZIER's use of international evidence and its assumptions on wage symmetry and rebuild scale to be appropriate.

N49 In Orion's submission on the draft decision it submitted another set of labour cost escalation forecasts in place of its originally proposed estimates.[539] These forecasts are provided by Infometrics in its report.[540]

N50 Infometrics' forecast is not easily comparable to NZIER's forecast because the two forecasts use different measures of labour cost. Infometrics' forecast in Orion's submission on the draft decision relies on a bespoke measure of labour costs.[541] Infometrics measures labour costs by dividing total earnings by jobs filled in the Canterbury construction sector.[542] This measure in itself does not adjust for changes

---

537 New Zealand Institute of Economic Research (NZIER) "Measuring labour cost escalation in Canterbury - Comments on Orion's submission and Infometrics forecasts" (October 2013), p.5.

538 NZIER explain their process in coming to the relevant assumptions, including timing as, "inferred by iteration of the model and examination of implied costs and feasibility of meeting the timeframe". See New Zealand Institute of Economic Research (NZIER) "Labour cost escalation in Canterbury" (July 2013), p.8, footnote 6.

539 Orion New Zealand Limited "Orion CPP Proposal: Draft Decision" (20 September 2013), p.70.

540 Infometrics "Investigation of construction costs in Canterbury for Orion New Zealand Ltd", in Orion "Orion CPP Proposal: Draft Decision" (20 September 2013), Attachment C, p.3.

541 Infometrics "Investigation of construction costs in Canterbury for Orion New Zealand Ltd", in Orion "Orion CPP Proposal: Draft Decision" (19 September 2013), Attachment C, p.9.

542 Infometrics chose not to use the Canterbury construction labour cost index because of the shorter available time series and it was not sure what the adjustment Statistics New Zealand applies to the Canterbury construction labour cost index measures.

in quality[543] and hours worked,[544] or compositional changes[545] between and within businesses. NZIER's forecasts use the official Statistics New Zealand measure of Canterbury construction labour costs which explicitly adjusts for these factors.[546]

N51 Adjusting for factors such as quality, hours worked and compositional changes is an essential step in measuring the changes in labour costs that employers pay to have the same job done to the same standard. We view the official Statistics New Zealand Canterbury Construction Labour Cost Index as a more robust and objective measure of construction labour costs in Canterbury than Infometrics' bespoke measure of labour costs.

N52 In its report Infometrics includes control variables in its forecast regressions in an attempt to control for hours worked and labour productivity. Infometrics does not control for the compositional aspects of labour cost.[547]

N53 Infometrics' measure of labour cost escalation shows high rates of growth in the years 2002 to 2009 prior to the Canterbury earthquakes, with the average annual rate of growth being in excess of 5.5%.

N54 Infometrics' forecast of labour cost escalation are, on average, similar to that which it measures historically.[548] In contrast NZIER forecasts an unprecedented increase in labour cost.[549] NZIER notes that:[550]

---

543 Adjusting for quality filters out labour cost changes reflecting individual performance or years of service. This is necessary to estimate cost changes on a like-for-like basis. For example, a shortage of carpenters may cause firms to react by hiring people who produce a lesser quality of work.

544 Peaks in construction activity typically result in an increased number of hours worked per filled job. An 'earnings per filled job' measure of labour cost will exaggerate changes in labour cost as earnings can increase because of changes in both hours worked and the cost of labour per hour. Adjusting for hours worked is necessary to estimate cost changes on a like-for-like basis.

545 Labour cost at the industry level is composed of different types of labour, the mix of which can change over time. Controlling for these compositional effects is necessary to estimate cost changes on a like-for-like basis. For example, if more relatively costly engineers and less lower skilled labourers are employed in the industry an earnings-based wage information would estimate labour cost inflation even if the cost of engineers and lower skilled labourers remained constant.

546 New Zealand Institute of Economic Research (NZIER) “Measuring labour cost escalation in Canterbury - Comments on Orion’s submission and Infometrics forecasts” (4 October 2013), pp.1-2.

547 In Infometrics' report it references a paper by Stroombergen (2006) which concludes the official labour cost index is not a good measure of unit labour costs. This conclusion was based on a low observed correlation between the adjustments in the labour cost index and labour productivity between 1997 and 2005. The paper notes that the low correlation is caused primarily by an observation of labour productivity in the year 2000. The reasons for this are not explored further in the paper. See Stroombergen "Labour Quality and Labour productivity - a preliminary analysis" (2006), pp.10-11.

548 Infometrics “Investigation of construction costs in Canterbury for Orion New Zealand Ltd”, in Orion *Orion CPP Proposal: Draft Decision* (20 September 2013), Attachment C, p.21.

> Producing forecasts with a model calibrated to historical data can be quite problematic if the forecast period includes market conditions known to be very different from anything observed historically. It makes sense to explore historical market dynamics to consider how or why these might change in the future but using an econometric model to produce forecasts is probably not the best approach in this context.

N55 Infometrics' relatively higher forecast of labour cost escalation may be driven by its measure of labour cost and not its assumptions on the level of construction activity occurring in Canterbury and the related dynamics.

N56 On balance we view NZIER's forecast as preferable. Firstly, it is based on the objective and robust measure of labour costs produced by Statistics New Zealand. Secondly, its approach more clearly articulates and models the direct impact of the rebuild on labour costs.

N57 We do not consider the Infometrics forecast to be more robust than the NZIER forecast.

N58 We note that, consistent with Orion's proposal and NZIER's approach, the official New Zealand labour cost index is used to calculate and forecast labour cost escalation for Orion's support functions (corporate and network management and operations).[551]

Our final decision

N59 On balance our final decision is to retain the use of NZIER's forecast to estimate labour cost escalation.

N60 The NZIER Canterbury construction forecast used in the draft decision meets the expenditure objective. We do not consider the forecasts in Orion's proposal or Infometrics' forecast in its submission on the draft decision to meet the expenditure objective.

N61 Table N11 below shows the forecast Canterbury construction labour cost escalation factors in Orion's proposal, our draft and final decision, and Orion's submission.

---

549 New Zealand Institute of Economic Research (NZIER) “Labour cost escalation in Canterbury” (July 2013), p.2.

550 New Zealand Institute of Economic Research (NZIER) “Measuring labour cost escalation in Canterbury - Comments on Orion’s submission and Infometrics forecasts” (4 October 2013), p.2.

551 Orion “Proposal for a customised price-quality path” (19 February 2013), p.578.

Table N11 - Comparison of Orion's proposal, the draft decision, Orion's submission and the final decision for Canterbury construction labour cost escalation (year-on-year % change)

	2014	2015	2016	2017	2018	2019
Orion's Proposal	7.50	7.50	7.50	5.00	5.00	5.00
Draft Decision	3.70	4.50	5.50	6.20	-2.40	-2.90
Orion's Submission	7.20	6.20	7.60	4.70	4.00	1.40
Our Final Decision	3.70	4.50	5.50	6.20	-2.40	-2.90

We used forward rates as a forecast of the exchange rate

N62 We consider that Orion's approach to forecasting the NZ dollar/US dollar exchange rate is not appropriate.[552] We have replaced Orion's forecast with forward exchange rates from Bloomberg.[553]

Our draft decision

N63 In Orion's proposal it based its forecast of the NZ dollar/US dollar exchange rate on an NZIER forecast (up to 2017), which it then extrapolated out to the end of the regulatory period in 2019.

N64 In the draft decision we replaced Orion's forecast with forward exchange rates from Bloomberg.[554] The use of forward exchange rates avoided the need to extrapolate towards the end of the regulatory period. We noted that using forward rates over the regulatory period incorporated objective market information.

Submissions on our draft decision

N65 In Orion's submission on the draft decision[555] it provided an updated NZIER forecast of the NZ dollar/ US dollar exchange rate up to 2018, which it then extrapolated out to the end of the regulatory period in 2019. Orion submitted that its forecast was more appropriate than the draft decision through reference to Infometrics' report.[556]

---

552 Orion uses commodity price forecasts in US dollars as an input to calculate materials cost escalators for capex projects.

553 Bloomberg is a recognised provider of business, financial and economic information.

554 Commerce Commission "Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited – Draft decision" (14 August 2013), paragraphs I45-I48.

555 Orion "Orion CPP proposal: Draft Decision" (20 September 2013), Attachment D.

556 Orion "Orion CPP proposal: Draft Decision" (20 September 2013), pp.71-72.

N66 In Infometrics' report on the draft decision it states the Commission overstates the efficacy of using forward rates to forecast future exchange rates.[557] Infometrics comments that forward exchange rates do not necessarily provide any additional information on the future exchange rate than the current spot rate.

N67 We acknowledge there is no single prevailing method for forecasting foreign exchange rates. Forecasting exchange rates is often a problematic and uncertain exercise.

N68 However, we view the forward exchange rate as an objective measure that is internally consistent across the forecast period. The use of forward rates avoids arbitrary extrapolation.

N69 The use of forward exchange rates is broadly consistent with that used for Transpower in its opex capex review for the period 2012/13 to 2014/15.[558]

Our final decision

N70 On balance, we have decided to retain the use of forward exchange rates extracted from Bloomberg. The forward rates have been updated from the draft decision.

N71 There is quantitatively little difference between the forecast exchange rates in Orion's submission and the forward rates used in our final decision.

N72 The Commission may re-evaluate its use of forward rates in instances where reputable forecasts covered the entire CPP period or where significant disruption is occurring in the foreign exchange market, such as a global financial crisis.

N73 Table N12 below shows our proposed forecast for NZ dollar/US dollar exchange rates and compares this to Orion’s proposal.

---

557 Infometrics “Investigation of construction costs in Canterbury for Orion New Zealand Ltd”, in Orion “Orion CPP Proposal: Draft Decision” (20 September 2013), Attachment C, pp.24-25.

558 See www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-price-path-compliance/opex-capex-review-2012-13-2014-15/

Table N12- Comparison of Orion's proposal, the draft decision, Orion's submission and the final decision for NZ dollar/US dollar exchange rates

	2014	2015	2016	2017	2018	2019
Orion's Proposal (NZIER and extrapolation)	0.780	0.752	0.690	0.655	0.655	0.655
Draft Decision (Bloomberg forward exchange rates)	0.762	0.739	0.717	0.700	0.683	0.670
Orion's Submission (Updated NZIER and extrapolation)	0.798	0.779	0.767	0.752	0.693	0.693
Our Final Decision (Updates Bloomberg forward exchange rates)	0.842	0.815	0.784	0.756	0.734	0.715

Note: The draft and final decision exchange rates are based on the forward NZ dollar/US dollar rates provided by Bloomberg's professional data services on 5 July 2013 and 23 October 2013 respectively. We calculated the forward exchange rate as the arithmetic average of the bid and the offer rates at that time. The settlement data for the forward rates is the middle of each calendar year, ie the first week of July in each for the forecast years.

We used producer prices for adjusting 'other' expenditure

N74 For other expenditure we have decided to use the PPI escalator in place of the CPI escalator which we used in our draft decision. We consider that Orion's proposal to use the PPI as an escalator for capital expenditure on non-system fixed assets and non-labour operating expenditure is now appropriately justified.

Our draft decision

N75 Prior to the draft decision Orion did not provide consistent or sufficiently detailed information on what these expenditure categories include.[559] Orion had not explained the nature of these costs sufficiently to allow us to assess whether a forecast of PPI would more appropriately reflect expected changes in these costs than, say, a broader price index measures such as the CPI.

Submissions on our draft decision

N76 Infometrics' report questioned the appropriateness of using forecast CPI to measure the price of inputs into the productive process of Orion.[560] It is Orion's responsibility to satisfy us that the PPI is justified versus a default broad escalator such as the CPI.

559 The explanation of 'other' expenditure in Orion's proposal differed from the explanations which we received in information requests after it submitted the proposal.

560 Infometrics "Investigation of construction costs in Canterbury for Orion New Zealand Ltd", in Orion "Orion CPP Proposal: Draft Decision" (20 September 2013), Attachment C, p.25.

N77 For this reason we replaced forecast PPI with forecast CPI as used elsewhere in the draft decision. In the absence of an alternative measure we consider it is appropriate to apply forecast CPI as a default broad escalator.

N78 Orion's submission on the draft decision clarified the contradictory explanations previously offered:[561]

> In response to the comment in the draft decision about the make-up of non labour components of these projects, we advise that they include a range of inputs required to manage and maintain our network. The mix differs across the programmes, and includes plant and equipment, fuel, consumables including small material components such as cross arms and insulators, power and other utilities such as telephone, stationery, recruitment, consultants, licences, insurance etc. The non network capex is self explanatory given the project descriptors we have used, such as computer equipment, vehicles, plant, equipment, furniture and fittings etc.

N79 The Commission considers this final explanation sufficient to justify the use of the PPI escalator.

Our final decision

N80 Table N13 below shows our final decision for 'other' expenditure (an updated forecast of the PPI) and compares this to Orion's proposal (an earlier forecast of the PPI) and our draft decision (an earlier forecast of CPI).

Table N13 - Comparison of Orion's proposal, the draft decision, Orion's submission and the final decision for cost escalators for capital expenditure on non-system fixed assets and non-labour operating expenditure (year-on-year % change)

	2014	2015	2016	2017	2018	2019
Orion's Proposal (PPI)	3.04	3.32	3.65	3.20	3.20	3.20
Draft Decision (CPI)	1.11	1.75	2.16	2.16	2.16	2.16
Orion's Submission (Updated PPI)	1.68	2.80	2.75	3.12	3.40	3.40
Our Final Decision (Updated PPI)	1.68	2.80	2.75	3.12	3.40	3.40

561 Orion "Orion CPP proposal: Draft Decision" (20 September 2013), pp.72-73.

Our assessment of other assumptions used in forecasting input prices

N81 The approach to developing expenditure escalators proposed by Orion, in addition to forecasts of input prices discussed above, requires forecasts of commodity prices, weighting factors and rules for allocating expenditure to different projects.

N82 We undertook a high level assessment of these other assumptions. Based on this assessment we consider that the assumptions are appropriate.

N83 Orion uses forecasts of commodity prices produced by the World Bank. We consider these particular forecasts to be credible.

N84 For some of the components proposed by Orion we were concerned with a lack of transparency. For example:

N84.1 Orion had not fully explained the rules that Orion adopted to allocate expenditure between projects.[562] We do note that the verifier carried out some spot checks and noted that the individual allocations were reasonable.

N84.2 Orion explained that the weights it attached to individual commodities in developing asset price indices were based on engineering judgement but did not explain what rules were adopted as part of this judgement.

We have updated some forecasts in our final decision

N85 Orion's Application used forecasts of commodity prices from the World Bank and forecasts of input prices and exchange rates from NZIER.

N86 Orion's submission on the draft decision[563] provided updated forecasts from the World Bank and NZIER. The Commission considers it appropriate to use the most up to date forecasts where possible.

N87 In our final decision we use updated PPI forecasts from NZIER for adjusting 'other' expenditure.

N88 In our final decision we use updated commodity forecasts from the World Bank to calculate escalation factors for major capex.

N89 In our final decision we do not use updated NZIER FX forecasts. We instead update the Bloomberg forward FX rates used in the draft decision.

---

562 Orion told us that this was undertaken by project managers.
563 Orion "Orion CPP proposal: Draft Decision" (20 September 2013), Attachment D.

Attachment O: Weighted average growth in quantities

Purpose of this attachment

O1 In this attachment we summarise our final decision on forecast weighted average growth in quantities to be included in Orion's CPP.

Summary of our final decision

O2 Our final decision is that Orion's forecasts of weighted average growth in quantities are reasonable. This is consistent our draft decision.

What Orion proposed

O3 Orion's CPP proposal included forecast weighted average growth in quantities through to the end of the CPP period. Weighted average growth in quantities reflects expected changes in demand over time. Orion stated:[564]

> The slope of the series for MAR before tax is set such that real price changes are constant over the CPP regulatory period. This requires adjusting for forecast changes in quantities. We forecast weighted average growth in quantities for this purpose.

O4 Orion's forecast weighted average growth in quantities is shown in Table O1 below.

Table O1 – Orion's proposed forecast of weighted average growth in quantities (year-on-year % change)

	FY14	FY15	FY16	FY17	FY18	FY19
Weighted average growth in quantities	0.82	0.81	0.79	0.80	0.85	0.76

O5 When calculating forecast weighted average growth in quantities, Orion's demand forecasts were broken down into five main customer groups. The five groups were: general connections (residential and small business), major customer connections (including embedded networks), irrigation connections, street lighting connections and large capacity connections (Synlait and Fonterra).[565]

Sensitivity of Orion's forecasts of weighted average growth in quantities to household growth

O6 Household growth forecasts are the most material input under Orion's approach to calculating the weighted average growth in quantities. Residential and small business connections form the bulk of Orion's revenues, and forecasts of weighted average

564 Orion "Proposal for a customised price-quality path" (19 February 2013), p.177.
565 In addition, forecasts are provided for export and generation customers.

growth in quantities are revenue weighted. Based on data supplied by Orion, residential and small business connections (referred to as “general connections”) account for approximately 80% of Orion’s budgeted revenues for FY2013.[566]

O7 Orion has based its expectations for growth in general connections on the Greater Christchurch Urban Development Strategy (UDS) “quick recovery” household growth scenario. Four possible scenarios are included in the UDS household growth model: rapid recovery, quick recovery, moderate recovery and slow recovery.[567] Orion notes that the Christchurch City Council (CCC) Monitoring unit recommends using the quick recovery scenario.[568]

O8 Assumed growth rates for other customer groups differ based on underlying drivers.[569] For example, it is assumed that Fonterra’s capacity will double in 2014 due to a planned upgrade, but no increase in capacity is expected for Synlait between 2014 and 2019.[570]

O9 Table O2 below shows forecast weighted average growth in quantities under each of the UDS household growth scenarios. The forecasts in this table are calculated by varying the household growth input in Orion’s “projected chargeable quantities” model, which it used to forecast weighted average growth in quantities.

566 General connections, major customer connections (including embedded networks), irrigation connections, street lighting connections and large capacity connections account for 79.6%, 11.8%, 6.1%, 1.7% and 0.9% of budgeted distribution revenues for the 2013 financial year respectively.

567 Market Economics “Greater Christchurch household scenarios 2011-2041: Final report” (March 2012).

568 Orion “Proposal for a customised price-quality path” (19 February 2013), p.190.

569 Orion “Proposal for a customised price-quality path” (19 February 2013), p.177.

570 Orion “Proposal for a customised price-quality path” (19 February 2013), p.184-185.

Table O2 – Sensitivity of weighted average growth in quantities to UDS household growth scenarios (year-on-year % change)

UDS household growth scenario	Underlying growth rate based on UDS scenario[571]	Weighted average growth in quantities					
		FY14	FY15	FY16	FY17	FY18	FY19
Rapid recovery scenario	1.30	1.29	1.28	1.26	1.27	1.32	1.23
Quick recovery scenario (Orion's proposal)	0.80	0.82	0.81	0.79	0.80	0.85	0.76
Moderate recovery scenario	0.50	0.54	0.53	0.51	0.52	0.57	0.48
Slow recovery scenario	0.30	0.35	0.34	0.32	0.33	0.38	0.29

O10 Table O2 shows that household growth is the key driver of the weighted average growth in quantities. There is a very strong correlation between the UDS household growth scenario that is selected and the overall weighted average growth in quantities.

O11 Demand forecasts for other customer groups, on the other hand, have a relatively minor impact.[572] As indicated above, this is because other customer groups contribute a relatively small proportion of Orion's revenues.

Our draft decision

O12 In our draft decision, we considered that Orion's forecasts of weighted average price growth in quantities were reasonable.

O13 We also invited submissions on the approach to forecasting weighted average growth in quantities and asked whether we should consider updating our approach in our final decision to alternative predictors of growth (such as GDP growth for the Canterbury region).

---

571 This column contains underlying growth in the number of households per annum, based on each of the UDS household growth scenarios. Orion states that the underlying growth rates for each scenario are: 1.3% for rapid, 0.8% for quick, 0.5% for moderate and 0.3% for slow.

572 For example, increasing the annual growth rate for irrigation connections from 1.3% per annum (as per Orion's proposal) to 10% per annum only increases the weighted average growth in quantities from approximately 0.8% per annum to 0.9% per annum. Irrigation connections are the third largest category (by revenue weighting).

Submissions on our draft decision

O14 Orion submitted that it accepted our proposed approach to determining weighted average growth in quantities.[573] Orion also submitted that no modifications to their forecasts were necessary.

O15 There were no other submissions directly responding to this topic.

Our final decision

O16 Our view continues to be that Orion's forecasts of weighted average growth in quantities are reasonable. The key reasons are described below.

O16.1 Household growth projections are the main input under Orion's approach to forecasting weighted average growth in quantities.

O16.2 Orion has based its household growth projections on independent forecasts prepared by Market Economics (in March 2012) for the Greater Christchurch UDS. The four household growth scenarios included in the UDS report appear to cover a reasonable range of possible timeframes for population levels to recover from the earthquakes.[574]

O16.3 Orion has based its household growth projections on the "quick recovery" scenario. Orion notes that the Christchurch City Council recommends using the quick recovery scenario.[575]

O16.4 Orion has consistently applied the quick recovery household growth scenario across its CPP proposal. For example, the quick recovery scenario is also applied in Orion's load growth forecasting model, which is used for network planning.

O16.5 It is not clear at this stage whether there is a forecast that better reflects expected household growth in the Canterbury region than the quick recovery scenario. At present, it is still relatively early in the earthquake recovery period and there is considerable uncertainty regarding household growth.

O17 We acknowledge the current uncertainty surrounding household growth forecasts for the Canterbury region. Further, we note that there are other potential predictors of demand growth which may also be relevant and take into account the very high

---

573 Orion "Orion CPP proposal: Draft Decision" (20 September 2013), p.75.

574 Market Economics "Greater Christchurch household scenarios 2011-2041: Final report" (March 2012), pp.2-3.

575 Orion "Proposal for a customised price-quality path" (19 February 2013), p.190.

amount of construction activity in the CPP period (for example, GDP growth for the Canterbury region).[576] However, we consider that Orion's forecasts of weighted average growth in quantities are reasonable. We have reached this conclusion after examining alternative predictors of demand growth using the forecasting method employed in the 2012 DPP reset. This provided no compelling reason to move away from the Orion forecast and we are satisfied that growth predicted is appropriate.[577]

576 We note GDP forecasts for Christchurch City are available. See Canterbury Development Corporation "Background Paper to the Christchurch Economic Development Strategy" (February 2013).

577 The main area of potential concern related to larger users whose growth was not based on an independent forecast. The Orion forecast was neither the highest nor lowest and the underlying drivers of differences with the 2012 DPP methodology was driven by alternative views of future growth in GDP.

Attachment P: Financial model for Orion's customised price-quality path

Purpose of this attachment

P1 This attachment describes how the financial model published with this paper produced the financial values that were required to establish Orion's CPP.

Our financial model produces an IM compliant CPP

P2 The financial model published with this paper uses the IMs described in Chapter 4 to produce Orion's CPP. The model is contained in a Microsoft Excel workbook and uses a set of 40 inputs contained in the 'Inputs' worksheet to determine:

P2.1 Maximum Allowable Revenue (MAR) before and after tax for each year of the CPP period (2015-2019);

P2.2 Building Blocks Allowable Revenue (BBAR) before and after tax for each year of the assessment period (2013-2014) and the CPP period (2015-2019); and

P2.3 controllable opex for each year of the CPP period (2015-2019).

P3 As required by the IMs, the MAR values represent a smoothed profile of BBAR values for the 5 year CPP regulatory period using forecast CPI+1%, and demand growth. The MAR values also incorporate our allowance for claw-back.[578]

P4 As described in Chapter 4, the MAR before tax value for 2015 is used to establish starting prices in Orion's CPP determination.

The inputs to the model are based on data supplied by Orion

P5 The 40 input values contained in the model have been calculated from the information that Orion submitted as part of its CPP proposal. The proposal included a suite of Orion's own Excel models containing financial input values. These models were audited and assessed as being IM compliant by Audit New Zealand.

P6 In our model, Orion's data has been modified consistent with our decisions on items such as forecast operating expenditure (INPUT 13), forecast total value of commissioned assets (INPUT 33), the value of claw-back (INPUT 9), and the X-factor (INPUT 3). The modifications to values of these inputs are outlined in the relevant sections of this paper.

---

[578] The conversion of the BBAR series into a MAR series is achieved through a 'Goal Seek' function contained in a macro in the 'MAR' module. This macro must be re-run if inputs are modified.

P7 A separate column in the ‘Inputs’ worksheet in the model describes where the various input values have been sourced from. In particular, it should be noted that:

P7.1 our model applies a standard depreciation method for the CPP period;[579]

P7.2 the cost escalation factors used to calculate the value of Orion's forecast expenditure in nominal terms were adjusted;[580]

P7.3 we have used the current CPI values available from Statistics New Zealand and CPI forecasts from the Reserve Bank of New Zealand to modify the 'Inflation Rate' (INPUT 7) and 'Revaluation Rate' (INPUT 35) input values;

P7.4 consistent with our treatment of spur assets transferred from Transpower to Orion outlined in this paper, the relevant forecast RAB and tax values for these assets have been removed from the inputs for 2015-2019 and an adjustment to the timing factor input for commissioned assets ('PV_{VCA}' INPUT 34) has been made;

P7.5 the financial results reported by Orion under ID regulation for 2013 have been incorporated into the inputs.[581] This includes an adjustment to 'Total Value of Commissioned Assets' for 2013 which recognises the deferral of commissioning of some assets to 2014. More accurate forecasts of 'Other Regulated Income' (INPUT 14) and tax differences for 2014-2019 were also possible based on the 2013 results. The adjustments have affected our calculation of claw-back, and roll-forward values such as total RAB and deferred tax for 2014-2019; and

P7.6 we have made the corrections to the model which were identified in our draft reasons paper together with corrections to opex and capex amounts subsequently identified by Strata and notified to interested persons on our website. Orion's submission on our draft decision included various comments about the accuracy of the modelling. These items have been reviewed and our modelling has been amended where necessary.

The accuracy of our model

P8 The outputs of our model have been checked against those that would be produced by the financial model that was contained in Orion's proposal. We are confident that there are no material discrepancies between our model and Orion's model.

---

579 In contrast, Orion had proposed an alternative depreciation methodology for newly-commissioned assets. This is discussed in Chapter 4 of this paper.

580 This is discussed in Chapter 4 of this paper and in Attachment N.

581 Further information to supplement the 2013 ID disclosures was requested from Orion pursuant to section 53ZD of the Act.

P9 An internal review of our model and the financial models in Orion's proposal have been undertaken. No material errors or omissions were identified.

Attachment Q: Specification of controllable opex

Purpose of this attachment

Q1 This attachment discusses our final decision on the specification of controllable opex in Orion's CPP to be applied in implementing the incremental rolling incentive scheme (IRIS) set out in the IMs and also sets out our response to other submissions on our draft determination.

Summary of our final decision

Q2 Under clause 5.3.1(a) of the IMs, we are required to specify controllable opex for Orion's CPP. Our decision is to specify that controllable opex will be equal to our allowances for forecast opex for each disclosure year of the 2015-19 regulatory period.

What Orion proposed

Q3 Orion chose not to forecast any opex as controllable opex for the purposes of its CPP proposal. Orion explained in its proposal that this was on the basis that "we believe it is more important for our customers that we 'get the job done' over the next five to seven years, rather than strive for some potentially 'arbitrary' efficiency gains."[582]

Q4 Orion also stated in its proposal, and submission on our consultation on controllable opex, that:[583]

> We have considered the option of nominating opex as controllable opex for the purpose of this CPP proposal. Given the current uncertainties which face us (including the rebuild, future earthquakes and costing escalation) and the wider Canterbury community we do not believe it is appropriate to include this mechanism in this CPP proposal. We are not currently operating in a business as usual state. Our consumers and other stakeholders such as CERA are also not yet working in a stable environment. This makes our forecasting extremely difficult. In addition we don't have an accurate baseline against which to assess our potential for efficiency improvements in opex.

Our draft decision

Q5 We did not specify an amount for controllable opex in our draft decision, but sought input from interested parties on Orion's approach and whether, notwithstanding Orion's circumstances, setting a positive controllable opex amount would nevertheless better achieve the Part 4 purpose.

---

582 Orion "Proposal for a customised price-quality path" (19 February 2013), pp.570-1.

583 See Orion "Proposal for a customised price-quality path" (19 February 2013), p.570 and Orion "Orion CPP - Controllable opex submission" (12 November 2013), p.2.

Submissions on our draft decision

Q6 In its submission and cross-submission on our draft decision reasons paper, Orion stated that it believed its initial rationale for not electing to include any opex as controllable opex for the purposes of its CPP proposal remained valid. Orion challenged any implication that excluding controllable opex from its proposal was inconsistent with the IMs or that the IMs required that a "positive amount must be included for controllable opex."[584] Orion reaffirmed this view in its cross-submission, where it stated that "[w]hile we understand the incentive objectives of an IRIS, our CPP proposal and submission explained why we did not feel able to nominate components of our planned opex as controllable opex as required for the CPP IRIS."[585] In its cross-submission, Orion also raised questions about how controllable opex would be identified, how this would relate to opex reductions proposed by the Commission in its draft decision and why potential efficiencies should be allocated to consumers immediately.

Q7 Powerco submitted that "given the IRIS is asymmetric, it only offers an upside benefit for Orion. As the CPP will already provide incentives for Orion to become more efficient as it is *ex ante*, having nil controllable opex is actually more beneficial for consumers. Given this fact, we consider that Orion's approach is consistent with the Part 4 purpose statement.[586]

Q8 In the absence of any evidence to the contrary, we would expect that all Orion's forecast opex is controllable. At least to some extent this is particularly due to the fact that two categories of expenditure are already provided for in the IMs as being largely outside the control of suppliers. These are pass-through costs and recoverable costs.

Our updated draft decision

Q9 We consider that we are required by the IMs to specify an amount for controllable opex and do not accept that there is any other category of opex over which Orion has no control whatsoever over. In our updated draft decision, we set controllable opex equal to our draft allowances for forecast opex for each disclosure year of the 2015-19 CPP regulatory period.

Submissions on our updated draft decision

Q10 In its submission on our updated draft decision, Orion agreed with the Commission that defining controllable opex as all opex is a pragmatic approach, which:

---

584 Orion "Orion CPP proposal: Draft Decision" (20 September 2013), p.84.

585 Orion "Orion CPP Proposal Draft Decision: Cross submission" (11 October 2013), p.33.

586 Powerco "Powerco submission to Setting the 2014-2019 customised price-quality path for Orion New Zealand Limited: Draft Decision" (20 September 2013), p.6.

Q10.1 avoids reconciliations between different types of opex;

Q10.2 avoids having to resolve the current disjoint between the information disclosure opex categories and the CPP opex categories; and

Q10.3 permits flexibility in the categories of actual opex spend relative to baseline opex.[587]

Q11 Orion also submitted that while it accepted that controllable opex is specified equal to total opex in principle, not all opex is fully controllable.[588]

Q12 As stated above, in the absence of any evidence to the contrary, we would expect that Orion's forecast opex is at least partly controllable. Orion gives the examples of emergency and scheduled maintenance as evidence to the contrary, which it states are largely reactionary.[589] Although the events driving emergency and scheduled maintenance expenditure can be said to be outside Orion's control, Orion has in practice some control over the way in which is responds to these events. This is through negotiations on costs and modifications to and the efficiency of the process through which it responds to emergencies and other maintenance requirements. Based on the evidence before us, we therefore conclude that all forecast opex does appear to be controllable to some degree.

Q13 Orion also considered that:

Q13.1 "[i]n our view it is not necessary to include a positive value for controllable opex, in addition to other efficiency assessments in order to meet the expenditure objective as the Commission had already turned its mind to efficiency gains through these downward adjustments";[590] and

Q13.2 baseline opex in our draft decision was significantly less than that proposed by Orion. Our draft decision also allocated proposed efficiency gains to consumers immediately and, in doing so, was inconsistent with the IRIS incentive mechanism which is intended to share potential efficiency gains with consumers over time;[591]

Q14 As discussed in Chapter 2 above, we have not sought to set the path assuming a highly efficient performance (such as to be at the productive efficiency frontier), nor have we set this path assuming rapid performance towards such a level. Our

587 Orion "Orion CPP - Controllable opex submission" (12 November 2013), p. 7.
588 Orion "Orion CPP - Controllable opex submission" (12 November 2013), p. 8.
589 Orion "Orion CPP - Controllable opex submission" (12 November 2013), p. 8.
590 Orion "Orion CPP - Controllable opex submission" (12 November 2013), p. 7.
591 Orion "Orion CPP - Controllable opex submission" (12 November 2013), pp.3-4.

assessment of expenditure has been carried out under the expenditure objective which considers both efficiency and prudency. Given the allowances for the various categories of expenditure, we consider that Orion has a realistic prospect of making efficiency gains during the CPP period that would see it out-perform our allowances for expenditure while satisfying the quality standards. We have not therefore set forecast expenditure at any level less than that we consider Orion is capable of achieving, given its current position.

Q15 In this scenario, setting a positive controllable opex amount and allowing an IRIS incentive mechanism to operate is consistent with both the IMs and the Part 4 purpose.

Q16 Finally, Orion stated that the suggestion that our proposed IRIS could be altered during Orion's CPP was contrary to the CPP reopener provisions set out in clause 5.6.4 of the IMs.[592]

Q17 We do not consider that our proposed changes to IRIS constitute changes in IMs that would re-open Orion's price-quality path, which is prohibited under s53ZB. Any IRIS change would only be implemented in a subsequent price-quality path for Orion, ie. that is where Orion's MAR would be impacted by the IRIS. We note that any change in the IMs relating to IRIS is subject to a merits appeal. Orion will also continue to be subject to information disclosure requirements for actual opex for each disclosure year.

Q18 We note other submissions made by Orion on IRIS. We thank Orion for these submissions and will respond to them as part of our continued process on incentives for suppliers to control expenditure during a regulatory period.[593]

[592] Orion “Orion CPP - Controllable opex submission” (12 November 2013), p. 6.

[593] See Commerce Commission, "Incentives for suppliers to control expenditure during a regulatory control period: Process and issues paper" (20 September 2013), available at www.comcom.govt.nz/dmsdocument/11119.

Attachment R: Key changes for final determination and response to submissions on our draft determination

Purpose of this attachment

R1 This attachment sets out key changes we have made to our draft determination to reflect our final decision on controllable opex and the proposed acquisition of spur assets from Transpower. It also summarises the changes we have considered to address submissions on our draft determination.

Controllable opex – changes that implement the incremental rolling incentive scheme

R2 In order to implement the incremental rolling incentive scheme (IRIS), the EDB IMs require that we specify for each assessment period in the CPP period an amount of controllable opex in categories of operating expenditure that are controllable.

R3 Orion proposed to define operating expenditure using the definition for operational expenditure used in the ID Determination[594] that is currently in effect.[595] However, that definition may vary over time if there are any amendments to the ID Determination.

R4 We have aligned the definition of operating expenditure as operating costs attributed to the provision of electricity distribution services. Both the CPP IMs and the ID Determination define operating expenditure in the same way at present, so we would expect the total amounts to align, although the ID Determination may vary over time. The definition we have used ensures that there is no change in what expenditure constitutes operating expenditure as determined in Orion's CPP.

R5 Orion expressed concern in its submission that "[s]pecific requirements for opex categories are unnecessary and add compliance complexity."[596] The IMs define controllable opex in relation to the categories of operating expenditure we specify as controllable. We consider that specifying what categories of operating expenditure are controllable, in addition to the allowance of operating expenditure that is allowed controllable opex, is consistent with the IMs.

R6 As Orion has suggested,[597] we have drafted the CPP determination so that it does not impose any new compliance requirements regarding the disclosure of information relating to controllable opex. Any information related to controllable

594 *Electricity Distribution Information Disclosure Determination 2012* [2012] NZCC 22.
595 Orion "Orion CPP- Controllable opex: Submission" (12 November 2013), p. 45.
596 Orion "Orion CPP- Controllable opex: Submission" (12 November 2013), p. 42.
597 Orion "Orion CPP- Controllable opex: Submission" (12 November 2013), p.44.

opex will be provided by Orion under the terms of the required disclosures in the ID Determination, which already currently apply to Orion.[598]

R7 In order to ensure there is no confusion regarding the reference to operating expenditure and operating categories in the CPP determination, and the definitions used in the IMs or the ID Determination, we have defined these terms for the CPP as IRIS Operating Expenditure and IRIS Opex Categories.

Changes in relation to acquisition of spur assets and prior year pass-through costs

R8 We have removed references to the acquisition of Transpower spur assets and the recovery of prior year pass-through costs, including Transpower transmission charges, from the determination, given our change in approach to dealing with these two categories of recoverable costs from our draft decision. Unrecovered prior year pass-through costs are now included in our decision on claw-back and the spur asset acquisitions are instead required to be dealt with under the recoverable cost rules in the IMs.[599]

Submissions on our draft determination

R9 The material drafting changes from our draft determinations included within our final determination in response to submissions are set out in Table R1.

---

598 See the reporting templates in the *Electricity Distribution Information Disclosure Determination 2012* [2012] NZCC 22, Schedule 3 'Report on Regulatory Profit' Section 3(iii) and Schedule 5d 'Report on Cost Allocations' Section 5d(i).

599 See Attachment M.

Table R1 – Our response to submissions on our draft determination

Submission comments or proposed changes	Commission response	Drafting change	Clause reference
The CPP determination should more clearly reflect that it replaces the Orion DPP during the CPP regulatory period.[600]	The Orion DPP will remain in effect, as the CPP is an amendment to the Orion DPP determination. However, the terms of the Orion DPP are effectively replaced during the CPP regulatory period. We have accordingly clarified the standing of the CPP determination.	We have clarified which terms of the Orion DPP continue to apply during the CPP period.	Cl. 3.2
Proposed corrections and clarifications of the terms used in the CPP to align with the Orion DPP, deleting some terms that are not used, and correcting cross-references to those terms.[601]	As the Orion DPP was determined prior to the IMs, some of the definitions contained in the Orion DPP have been replaced with those in the IMs.	Where necessary, we have aligned the defined terms with the definitions contained in the IMs.	Cl. 4
Correct a reference in the definition of Class B and C interruptions to ensure they apply only where they are interruptions by Orion.[602]	We agree - for the purpose of calculating SAIDI and SAIFI limits, the definitions of Class B and C interruptions apply only where the interruption is caused by Orion or occurs on Orion's network.	We have clarified these definitions accordingly.	Cl. 4

600 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.14.
601 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.17-20
602 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.18.

Submission comments or proposed changes	Commission response	Drafting change	Clause reference
The annual rate of change no longer refers expressly to the annual rate of change “in Prices”.[603]	While the use of "in Prices" is redundant in the context of this clause, we consider the change is appropriate in order to avoid any confusion.	We have re-inserted the reference to Prices in the annual rate of change provision.	Cl. 7.2
The reference to Assessment Periods prior to the Regulatory Period of the CPP does not meet the definition of Assessment Periods contained in clause 4, which (under the current form of the amendment) include only assessment periods during the CPP.[604]	We have agreed to this change. While there remain Assessment Periods for previous years under the DPP, in order to prevent any uncertainty as to how the DPP and CPP fit together, we have clarified this point.[605]	Where a reference to a prior 12-month period may occur prior to the CPP Determination coming into effect, we have clarified the language accordingly.	Cl. 7.5, Cl. 7.7, Sch. 1B and Sch. 1C
Following a transaction transferring assets and customers, Orion proposed that the ANR should use the lagged quantities as provided by the previous supplier, and NR should use the quantities that reasonably reflects the increase that would have occurred.[606]	We agree this approach is consistent with the IMs and reflects the impact of the transaction on Orion's notional revenues.	We have adjusted the defined terms as proposed in Orion's submission.	Sch. 1C

603 Orion “Orion CPP proposal: Draft Determination” (30 September 2013), p.22.

604 Orion “Orion CPP proposal: Draft Determination” (30 September 2013), p.17-20

605 We identified a similar issue in the Gas DPP, in which we adopted the use of the term “Pricing Period” to refer to years prior to the first DPP. Orion’s suggested change obviates the need for another defined term.

606 Orion “Orion CPP proposal: Draft Determination” (30 September 2013), p.24.

Submission comments or proposed changes	Commission response	Drafting change	Clause reference
Orion and ENA objected to the requirement that forecast recoverable costs should be 'ascertainable', as this could mean that some costs that could be forecast under the DPP (and therefore recovered) cannot now be recovered under the CPP.[607]	We have agreed to remove these obligations from the Orion CPP, as Orion prefers that they align with the requirements as they exist under the Orion DPP. Requiring that recoverable costs be ascertainable or otherwise sufficiently certain at the beginning of an Assessment Period reduces the risk of non-compliance by the EDB.[608]	Para. 1 of Schedule 2 has been clarified.	Sch. 2, para. 1
For the annual compliance statement, clarify that the amounts to be disclosed for allowable notional revenue are forecast, while those used to calculate notional revenue are actual.[609]	This is the correct application of these provisions, and clarification is appropriate.	The relevant provisions now clearly reference the correct nature of the information provided.	Cl. 10.3

607 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.37-39 and 41; Electricity Networks Association "Orion CPP Draft Decision and Draft Determination – Cross Submission" (11 October 2013), p.2.

608 Substantially similar provisions were added in the Gas DPP in order to provide additional certainty for suppliers and reduce the risk of breach (through over-recovery from an inaccurate forecast).

609 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), pp.39 and 41.

Submission comments or proposed changes	Commission response	Drafting change	Clause reference
Allow for the spread of recovery of certain specified recoverable costs (CPP application related costs).[610]	We agree that the CPP application costs may be spread across the CPP regulatory period.	We have included a formula for Orion to use to calculate and spread these costs over the CPP period.	Sch. 2, para. 3
Insert a new clause to ensure Orion may continue to recover avoided transmission costs for assets purchased prior to the CPP regulatory period for the full 5 year period, on the basis that those costs have not been approved in Orion's pre-IM DPP determination.[611]	We consider that avoided transmission charges for assets acquired prior to the CPP were approved under the Orion 2010 DPP, but that it is appropriate to clarify this position in the final CPP determination.	Clarification of the approval of these prior year avoided transmission charges are set out in para. 4 of Schedule 2.	Sch. 2, para. 4
Orion proposed a number of changes addressing the process the Commission will follow for the transition to the DPP at the expiration of the CPP period.[612]	The transition from Orion to the DPP will involve a consideration of a number of issues. We will address this as a separate process after the Orion CPP is set.	No change made.	

[610] Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.49.
[611] Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p. 51.
[612] Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.60.

Submission comments or proposed changes	Commission response	Drafting change	Clause reference
Orion proposed a number of changes to clarify the restructuring of prices.[613]	In our view no further drafting changes are required to address a restructuring of prices: 1. Pi in Equation 2 of Schedule 1B is expressed as the i^{th} price for any part of the Assessment Period. 2. Qi is the quantity corresponding to that i^{th} price, which means that this Q only applies to the extent that Pi applies. 3. When Pi becomes Pi' at any stage in the year through a price change, the relevant Q would then be a quantity Qi'. 4. The sum of Pi*Qi plus Pi'*Qi' gives the weighting we referred to. No further drafting is required.	No change made.	7.7; Sch. 1B; Sch. 1C

613 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.62.

Submission comments or proposed changes	Commission response	Drafting change	Clause reference
Orion proposed an update to quality standards to back-out spur asset adjustments included in the CPP proposal.[614]	For reasons set out in our assessment of quality, we have adopted the quality standards proposed by Orion. These include adjustments for SAIDI and SAIFI Limits For the forecast purchases. In reviewing Schedule 3, we also noted that no update to reliability limits was provided for following a major transaction - we have inserted a clause to provide for recalculation of the SAIDI and SAIFI limits following a major transaction.	No change made to the quality standards, but a new paragraph 3 has been added to provide for recalculation of the reliability limits.	Sch. 3, paras. 2 and 3.
Orion should be able to recover previously paid Commerce Act levies, as provided for under clause 8.8 of the Orion DPP.[615]	The omission of the prior years' Commerce Act levies was an oversight. These continue to be considered pass-through costs, as provided for under the IMs and the Orion DPP.	A new paragraph has been added to Schedule 2 to clarify the status of these costs.	Sch. 2, para. 5

614 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), pp.63-67.
615 Orion "Orion CPP proposal: Draft Determination" (30 September 2013), p.50.

Attachment S: Background on Orion and network planning

Purpose

S1 This attachment provides background information on Orion's network, and on the meaning of certain terms such as reliability, resilience, and security of supply standards.

S2 This attachment is included for general information only, to assist readers in understanding some of the more technical aspects of this document.

What does Orion do?

S3 Orion's primary business purpose is to supply electricity through 13,600 kilometres of lines and cables to over 190,000 homes and businesses located between the Rakaia and Waimakariri Rivers, from Pegasus Bay to the Alpine divide.

S4 The national grid, which is owned and operated by Transpower (NZ) Ltd, carries bulk electricity supplies into the Canterbury region from hydro power stations in the Mackenzie Basin and regions further south.

S5 Orion's network links consumers with the national grid. Orion's network is supplied by two major urban substations in the region, referred to as grid exit points (GXPs). These are at Islington (west Christchurch) and Bromley (east Christchurch). Orion also takes supply from smaller rural GXPs at Springston, Kimberley, Hororata, Coleridge, Castle Hill and Arthurs Pass.

How does Orion supply customers?

S6 Starting at a GXP, Orion's network supplies customers through three network levels of decreasing voltage.[616] In an urban setting, these are:

S6.1 bulk supply to districts, eg, east Christchurch, (33 kV and 66 kV), through the *subtransmission network*;

S6.2 supply to suburbs, eg, New Brighton, or single large industrial/commercial sites, (11 kV), through the *distribution network*; and

S6.3 supply along streets, eg, along Pages Road, (400 V and 230 V), through the *low voltage (or LV) network*.

S7 The same terminology applies in the rural areas, using the same voltages as above.

---

[616] Voltage is electrical "pressure" and is analogous to water pressure at various points in a water reticulation system. It is measured in volts (abbreviated to V) and kilovolts (abbreviated to kV).

S8 Electricity consumers are connected to Orion's network at the distribution level (for large industrial and commercial consumers) or, more commonly, at the low voltage level (for all residential and many commercial consumers).

S9 Orion's network uses transformers that convert electricity between the various voltage levels. These can range in size from large zone substation supply transformers to transformers housed in small street-level kiosks (see pictures below).

Source: Orion's 2013 Asset Management Plan

How do consumers pay for their electricity supply?

S10 Electricity consumers receive two distinct services from suppliers. These are *supply* of electricity and *delivery* of that electricity.

S11 In New Zealand, electricity distributors like Orion provide only the delivery component of the service, using their network assets. The energy component of the service is provided by electricity retailers, such as Genesis and Meridian.

S12 Consumers are billed by their chosen electricity retailer. Orion's charges are incorporated by the retailer into consumers' fixed daily charges (in cents per day) and variable use-based charges (in cents per kWh). Consumers pay their retailer for delivered energy and the retailer pays Orion for its delivery services to each of that retailer's consumers.

S13 It is not generally possible to unbundle Orion's charge from the overall price that consumers pay. The exception to this is for the largest consumers. Orion may charge these consumers directly for electricity delivery.

S14 Consumers normally call Orion directly if faults or other problems relating to electricity delivery occur. They also deal directly with Orion to arrange new connections to the network, safety disconnections and end-of-life service decommissioning.

What service qualities do consumers require from electricity networks?

S15 Broadly speaking, electricity consumers seek a continuous and reliable electricity supply that meets their usage needs at all times at the lowest possible cost.

Electricity consumers also want their supply to remain within the statutory voltage limits and to be free from voltage spikes, surges or other momentary fluctuations.

S16 Orion and other electricity distributors use a range of terms to describe aspects of the service qualities received by consumers. These terms include network reliability, network security, and resilience. The following sections explain the main concepts.

What is network reliability?

S17 Network reliability is the term used by engineers to refer to the extent that a network provides consumers with a continuous, uninterrupted supply of electricity. In practice, network reliability is measured and reported using standard industry terminology:

S17.1 SAIDI (System Average Interruption Duration Index) is defined as the average interruption length for each consumer served by the network, assessed over a specific time period, and is measured in minutes;

S17.2 SAIFI (System Average Interruption Frequency Index) is defined as the average number of interruption events a consumer experiences, assessed over a given time period; and

S17.3 CAIDI (Customer Average Interruption Duration Index) is defined as the average time taken to restore a consumer's electricity supply after an interruption event, assessed over a given time period, and is measured in minutes per event.

S18 These performance measures are typically assessed and reported for a particular year. Electricity distributors are required to plan the management of their networks to deliver preset target SAIDI, SAIFI and CAIDI levels over a 10 year forecast period and to report performance against their targets annually.

What is network security?

S19 Network security is the ability of a network to maintain continuous supply to consumers following one or more faults that impact a specific part of the network.

S20 The simplest way to think of security is that a network will be more secure if there are one or more parallel paths along which electricity can flow to a consumer. If one path (eg, a circuit or a transformer) develops a fault and is automatically disconnected from the network to avoid further damage, continuous supply can be maintained along the non-faulted parallel path.

S21 Network security criteria are set by the electricity distributor for each network voltage level. The electricity distributor determines the ability of that part of the network to withstand one or more faults while maintaining continuous supply to consumers. Implementing higher levels of security generally requires:

S21.1 duplication of network assets, such as circuits and transformers;

S21.2 investment in other non-network assets, such as local generation; and/or

S21.3 investment in demand management, such as control of supply to non-critical loads that may be remotely switched off by the electricity distributor in a supply emergency (eg, consumers' electric storage water heaters).

S22 More secure networks are therefore more costly to provide and maintain. Optimal investment in network assets balances consumer demands for reliable supply with the cost involved in providing duplicated assets or other non-network solutions.

S23 Orion publishes its security standards in its annually updated Asset Management Plan. These generally provide for greater levels of network security at higher voltage levels in the network and for supplies to more critical areas and customers.

S24 For example, for supplies to the Christchurch CBD, Orion's standard requires a subtransmission network that will maintain continuous supply to CBD consumers following a single network fault. If a second fault occurs affecting the same part of the network before the first fault has been repaired, the standard allows an interruption to supply but requires that supply must be restored within an hour. Orion's security standards are comparable to the standards used by Vector for its Auckland network.

What is resilience?

S25 Resilience is the ability to maintain and, if interrupted, restore supply to consumers, particularly following the onset of a high impact, low probability (HILP) event, or series of events.

S26 Resilience describes a broad set of attributes that a well-performing electricity network should possess, or aspire to possess. These attributes can be delivered in a wide variety of ways and relate to assets, policies, processes and capabilities that allow the electricity distributor to flexibly and rapidly respond to unforeseen contingencies of all types. Objectives relating to network resilience can impact an electricity distributor's network security standards and the resulting architecture chosen for the network.

S27 HILP events are usually associated with multiple faults and outages caused by extreme environmental events such as earthquakes and severe weather-related events (eg, snow storms, extreme high winds, and major floods) and impact a wide area of the network.

S28 Similar to considerations of network security, choices relating to network resilience require a balance of risk, performance and cost considerations.

How are planning criteria and expenditure linked to service quality?

S29 The ability of an electricity network to deliver the service quality required by the consumers it supplies is linked to the level of expenditure in network assets. The amount of expenditure required is dependent on:

S29.1 the network security standards adopted, which determine the scope and timing of network upgrades;

S29.2 forecast levels of consumer demand and their impact on network loading at all levels in the network; and

S29.3 adoption of sound asset lifecycle and operating practices that seek to optimise asset maintenance and replacement expenditure while minimising the time that equipment is removed from service for planned maintenance.

S30 Planning criteria that provide for more secure networks will generally require more assets, more upfront spending on assets (capital expenditure) and more ongoing operational expenditure.

S31 Of critical importance for investment in, and management of, electricity network assets is the balance between the cost of committing additional expenditure and the benefit achieved from it. Optimal expenditure decisions therefore require careful choices to be made amongst a wide range of options. These options include whether to:

S31.1 repair old or damaged equipment or replace it;

S31.2 inspect and regularly maintain equipment or simply run it to failure;

S31.3 replace equipment that might pose a health and safety risk or mitigate the risk in some other way; and/or

S31.4 invest in new lines and transformers or in non-network options (such as mobile generators and network automation equipment) to provide network security.

S32 The timing of expenditure is also critical in optimising the balance between cost and benefits. Age and condition monitoring, fault analysis and information systems play an important role in informing optimal asset management decisions by making relevant information available to asset managers.

Attachment T: Glossary

Abbreviation	Definition
Act, The	Commerce Act 1986
Aon	Aon New Zealand Limited
BBAR	Building Blocks Allowable Revenues
CAIDI	Customer Average Interruption Duration Index
Calverton	Calverton Business Consulting Limited
Capex	Capital expenditure
CBD	Central Business District
Claw-back	Claw-back is defined in s 52D of the Act
Commission, The	Commerce Commission
CPI	Consumer Price Index
CPI-X	CPI minus X
CPP	Customised price-quality path
DPP	Default price-quality path
2010 DPP Determination	Electricity distribution services default price-quality path determination [2012] NZCC 35
EDBs	Electricity Distribution Businesses
ENA	Electricity Networks Association
FTEs	Full-time equivalents
GAAP	Generally Accepted Accounting Practice
GPBs	Gas Pipeline Businesses
GST	Goods and Services Tax
GXP	Grid Exit Point
IMs	Electricity Distribution Services Input Methodologies Determination *2012* [2012] NZCC 26
IRIS	Incremental Rolling Incentive Scheme
kV	Kilovolt
kWh	Kilowatt hour
MAR	Maximum Allowable Revenues
MEUG	Major Electricity Users' Group
MW	Megawatt
NERA	National Economic Research Associates
NPV	Net Present Value
NZIER	New Zealand Institute of Economic Research

Opex	Operating expenditure
Orion	Orion New Zealand Limited
Orion's DPP Determination	Electricity Distribution Services Default Price-Quality Path Determination 2010 (Commerce Commission Decision 685, 30 November 2009)
Part 4 purpose, [T]he	The purpose of Part 4, set out in section 52A of the Act
Partna	Partna Consulting Group
PV	Present Value
PwC	PriceWaterhouse Coopers
QSV, or Quality Standard Variation	Variation to the quality standards under a DPP
RAB	Regulatory Asset Base
RDT	Revenue Differential Term
RIV	Regulatory Investment Value
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
Strata	Strata Energy Consulting Limited
UDS	Urban Development Strategy
Vector	Vector Limited
WACC	Weighted Average Cost of Capital