31 MARCH 2022

PROJECT AND PROGRAMME DELIVERY PLAN

Aurora ENERGY

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1. INTRODUCTION

This chapter introduces Aurora Energy's project and programme delivery plan (PPDP).

1.1. PURPOSE

The PPDP covers a 5-year period, from 1 April 2021 to 31 March 2026 (CPP Period) and details the capital expenditure (Capex) and operational expenditure (Opex) projects and programmes we plan to deliver over the CPP Period. These projects and programmes are largely consistent with the projects and programmes that we included in our CPP application.

As part of our 'business-as-usual' internal planning and governance processes we have developed updated investment plans for RY23-26. These plans reflect updated asset inspection and condition information and improved asset criticality information, enabling improvements to the prioritisation of our safety risk remediation. Our plan also includes adjustments to major zone substation projects to accommodate investment in new and upgraded zone substations to meet higher than expected growth on the network. The plans have been approved by our Board and will form the basis of our work plan for the remainder of the CPP Period and the baseline of our future annual delivery reporting (ADR).

The PPDP has been prepared in accordance with the Commerce Commission's (the Commission) requirements set out in the *Electricity Distribution Information Disclosure Determination 2012* (Determination, available here) published by the Commission on 9 December 2021.

Pursuant to those requirements, Aurora is required to disclose a project and programme delivery plan that describes:

- the Capex and Opex projects and programmes that we plan to deliver over the CPP Period, including where and when we plan to deliver them
- whether, and if so how and why, the projects and programmes in this PPDP, and the Capex and open required, as applicable, differ in material respects to:
  - the Capex and Opex projects and programmes outlined in our CPP application
  - the Capex and Opex provided for in the final Determination
- how we plan to communicate with consumers and other stakeholders when we need to reprioritise or substitute Capex or Opex projects or programmes during the CPP Period.

A reference of how this PPDP meets the regulatory requirements is included in Appendix A.

We have also published a full AMP that fully reflects our updated CPP investment plans.

1.2. FURTHER ENGAGEMENT AND COMMUNICATION

To ensure these plans are effectively communicated to customers and other stakeholders, we will hold a series of regional engagement information sessions, summarising the main aspects of the plans.

In addition to this, we will communicate with consumers and other stakeholders when we need to reprioritise or substitute any of the Capex and Opex projects and programmes set out in the PPDP. We will do this via:

- the May edition of our Your Network, Your News newsletter
- our social media platforms
- on our website

We will also report progress against these plans in our Annual Delivery Report starting on 31 August 2022.

1.3. CERTIFICATION

This PPDP was prepared and certified in accordance with clause 11.3 of the Determination on 30 March 2022. A copy of the Director's Certificate can be found in Appendix B.

2. SUMMARY OF OUR UPDATED PLANS

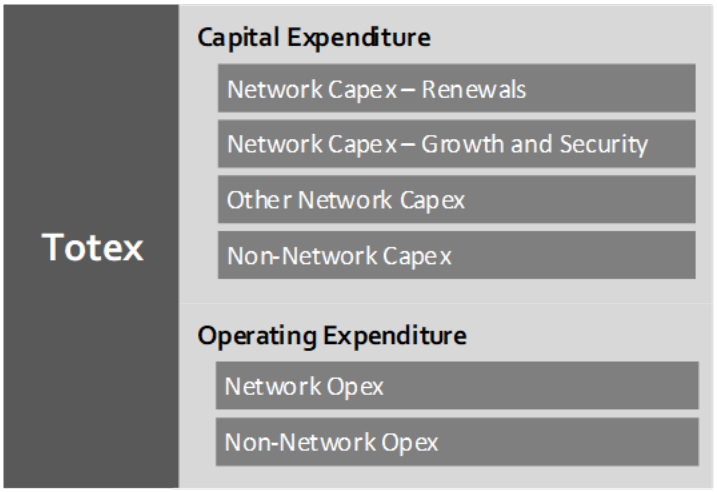
This chapter provides summary information on our refined CPP investment plans, compared with our original proposal.

2.1. TOTAL EXPENDITURE

The expenditure forecasts presented here align with our internal expenditure categories as used in our CPP proposal.

The figure below sets out our expenditure categories, each of which is made up of several expenditure portfolios that form the basis of our internal expenditure governance and budget management.

Figure 2.1: Expenditure categories



2.1.1. Total Capex

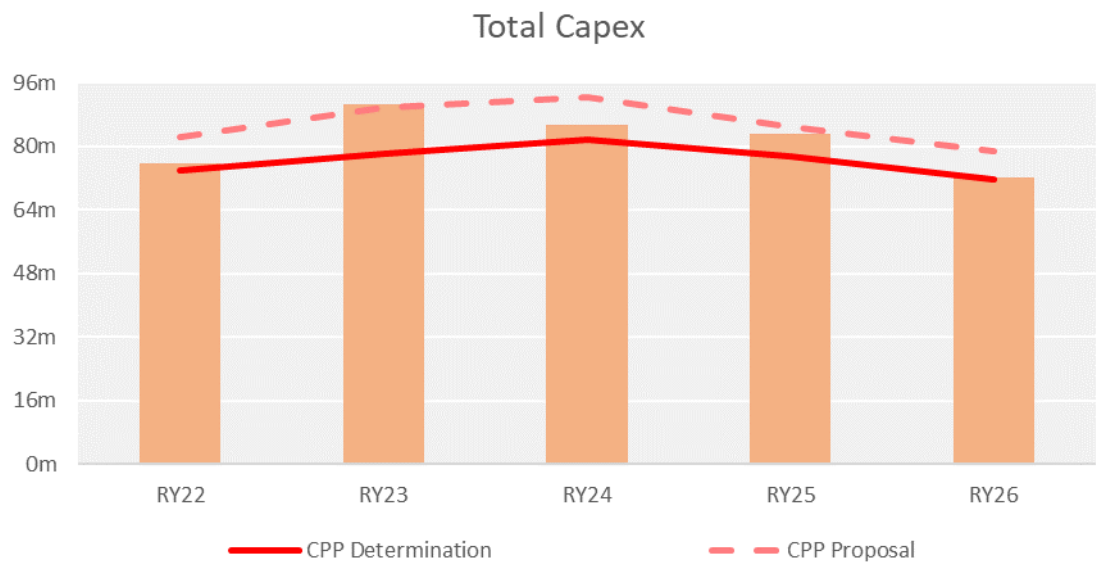
Total Capex includes the following four main categories:

- renewals Capex: expenditure used to replace or refurbish existing assets on our networks
- growth and security Capex: relates to capital investments that ensure the capacity of our network is adequate to meet the peak demand of our customers, with appropriate supply security, now and into the future
- other network Capex: relates to consumer connections, the cost of relocating our assets to facilitate developments by third parties, and expenditure associated with future network evolution
- non-network Capex: our investment in those assets that support and enable our asset management activities

Forecast total Capex

The chart below shows our total forecast Capex over the CPP Period compared to our CPP application and the Commission's final CPP decision.

Figure 2.2: Forecast total Capex (gross of contributions)



Our updated Capex is broadly consistent with our application and continues to represent a significant increase on historical levels. The main drivers for the adjustments in planned expenditure include:

- Approximately $18M of additional (above the CPP Determination) growth-related expenditure to meet higher than anticipated demand growth. We predicted slowing construction and economic activity in our region in the beginning of the COVID-19 pandemic. However, despite the pandemic, we have observed a normal, or higher than normal, growth trend. This has required further reprioritisation of our renewals expenditure to manage within our regulatory allowances as outlined below.
- Since making our application, we have developed a new asset risk framework which allows us to approach asset investment programming based on the level risk and effectiveness of the applied risk control. This has resulted in improved investment prioritisation within our renewal programme. The outcome of our improved risk quantification and the impact of increased growth expenditure and renewals reprioritisation has been quantified in our Safety Delivery Plan.
- We have applied revised cost escalation indices from Sapere which show a slightly higher (circa $2M) level of forecast Opex escalation over the CPP Period relative to the escalation forecast applied in the CPP Determination. Forecast Capex escalation has reduced by approximately $10M over the CPP period. The revised Capex escalators have enabled our plans to include a slight increase in volumes of work for the same expenditure. However, we note that we are seeing upward price movement from some of our suppliers of equipment, and we expect global events such as COVID-19 and the Russian war to continue to create

volatility and uncertainty in our input costs. Sapere notes in their report that there is a higher than normal level of escalation forecast uncertainty at the current time. Our ADR will enable our actual Capex input costs to be reported against our forecast rates, and enable our annual review and modifications to our plans and risk outcomes to be adjusted to reflect updated input cost information.

Further details of our Capex projects and programmes are provided in Chapters 3 to 6.

2.1.2. Total Opex

The total proposed Opex over the CPP Period is very similar to the CPP Determination but we forecast a different profile for non-network Opex, and anticipate that our expenditure will exceed the CPP Determination allowances in the later years of the CPP period if we are to achieve our non-network Opex objectives, including the preparation of our systems, processes and capabilities for enhanced asset and risk management, and future operations enhancements for electrification growth and distributed energy resources.

The increasing Opex trend is further compounded by our provision for the possibility of a second CPP application. As we progress through the CPP Period and our future plans become more certain, and the Commission progresses its processes for the next reset of electricity distribution businesses' revenue, we will be able to make a more informed view of the need for a second CPP application.

As outlined above, upward cost escalation pressure will impact/offset our ability to fully realise our Opex benefit from the improved levels of efficiency across our network and non-network activities.

Our RY22 planning and forecast was largely set prior to receiving the final CPP Determination. The draft CPP Determination decision proposed significant reductions to our CPP application Opex proposal and this led to a cautious RY22 expenditure plan, leading to deferral into RY23 and RY24.

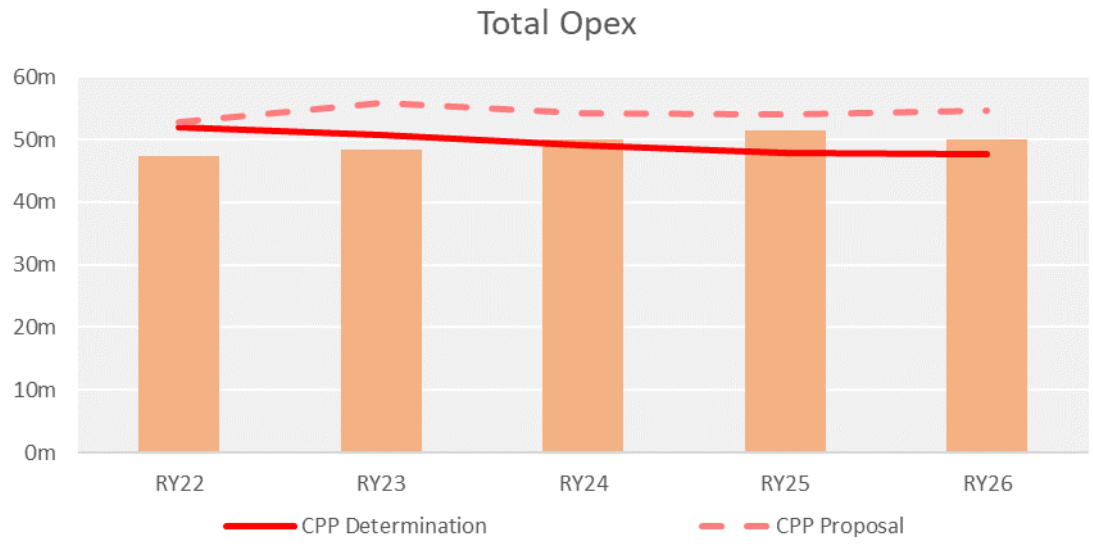
Total Opex includes the following:

- network Opex:
  - relates to activities to inspect and repair our assets. Improvements in our inspection and maintenance regimes will allow us to optimise our asset lifecycle investments; and
  - includes the management of vegetation in close proximity to our assets.
- non-network Opex: includes our system operations and network support (SONS) and business support (BS) expenditure and relates to activities that support the day-to-day operations of our business including network operations, asset management, information technology, finance, regulatory, customer engagement and people management.

Forecast total Opex

The chart below shows our total forecast Opex compared to the Commission's final CPP decision.

Figure 2.3: Forecast total Opex chart



As described above, our updated Opex forecasts have been adjusted to reflect a cautious start in RY22 as a result of the draft CPP decision. Increasing forecast expenditure through the CPP period reflects the significant programme of improvement initiatives, preparedness for future networks and the possibility of a second CPP application.

Network Opex

The key aspects and main drivers for the adjustments in our network forecast expenditure and plans include:

- Our network Opex forecast is consistent with that approved in the CPP Determination.
- We note that the Determination requires a reduction in network Opex compared to our CPP application levels. We have not adjusted our network inspection and maintenance plans as a consequence of this reduction, and we will look to identify areas where we can make cost savings without impacting the safety risk reduction we are seeking from our work plans.
- Recent trends indicate improved network reliability performance and this creates downward pressure on reactive maintenance expenditure. It is too early to adjust our forecasts in this area, but it is anticipated that this kind of expenditure saving is an example of the gains that may facilitate the delivery of the network inspection and maintenance plans included in our CPP application despite the reduction in expenditure allowance. We will monitor and report on our progress in the ADR.

Non-network Opex

The key aspects and main drivers for the adjustments in our non-network forecast expenditure and plans include:

- Top-down adjustments have been made to our CPP application forecasts to ensure that our planned expenditure through the CPP Period will align (see profile changes below) with the

CPP Determination allowances. The adjustments have resulted in reduced SONS and people cost forecasts in particular.

- Our total non-network Opex over the CPP period is consistent with the CPP Determination. However, the yearly profile of the CPP Determination expenditure has been adjusted to align with our revised non-network planning
- As a consequence of the CPP draft decision to reduce non-network expenditure, we deferred our less critical RY22 non-network plans into RY23 and RY24 pending the CPP Determination to confirm our expenditure allowances
- We note that major components of the non-network forecasts rely on base-step-trend modelling with top-down review including benchmarking with similar businesses in a similar phase of growth and maturity. Therefore, we have not been able to fully itemise the impact of the expenditure reduction in the final CPP Determination on our non-network plans
- We anticipate that the CPP Determination expenditure reduction will require us to prioritise our improvement initiatives, focusing on initiatives that lead to safety risk reduction first and then efficiency gains as available resources allow. The improvement initiatives included in our Development Plan[1] outline our key focus areas and the expected completion dates. In particular, our focus on improving our data and systems to enable improved asset condition and risk quantification are key to enabling a safety prioritised plan
- Our revised plan includes additional provision for network evolution and the procurement of non-network solutions. This additional provision anticipates a growing uptake of distributed energy resources and an increased need to create operational and analytical capability, and to seek network capacity management support from third parties (flexibility traders)
- The CPP Determination concluded a 5-year (versus 3-year) CPP period enabling a deferral of possible second CPP application expenditure of circa $2.9m (RY23 $2.2m, RY24 $0.7m) by 2 years into RY25 and RY26
- Revised Sapere escalation indices suggest that Opex input cost inflation is likely to exceed the levels inherent within the CPP Determination, giving rise to higher levels of nominal expenditure in the latter years of the CPP period

Further details of our Opex projects and programmes are provided in Chapters 7 and 8.

2.1.3. Summary Comparison

The following table explains the main variances in our overall CPP investment plans outlined in our 2022 AMP compared with our approved CPP Determination allowances. These reflect changes in forecast expenditure during the full CPP period. All amounts are in nominal dollars.

[1] A copy of our Development Plan is available on our website at www.auroraenergy.co.nz

Table 1: Expenditure profile comparison (in nominal dollars)

	CPP DETERMINATION	AMP 2022	% CHANGE	COMMENTS
Capex				
System growth	$25,301,095	$43,542,112 *(+$6,484,955 capacity event[2])*	+72% *(+97.5%)*	The expected downturn on growth from COVID-19 has not eventuated as forecast in the CPP Determination. We continue to experience strong growth in Central Otago. We will be applying for a 'capacity event' allowance for some growth projects.
Asset replacement and renewal	$277,680,557	$261,105,209	-6.0%	Increased expenditure in growth has required further risk prioritisation within the asset renewal programme.
Consumer connection	$50,641,029	$50,641,029 *(+$16,581,577 capacity event)*	0% *(+32.7%)*	In line with system growth, we continue to experience and forecast strong growth in customer connections. We will be applying for a 'capacity event' allowance for the unplanned consumer connections expenditure.
Asset relocations	$9,729,454	$9,056,739 *(+$1,545,925 capacity event)*	-6.9% *(+9.0%)*	Similar to new connections, we have identified new asset relocation work and we forecast further requests for asset relocations.
Reliability, safety and environment	$2,792,116	$2,665,040	-4.6%	We have deferred reliability improvement plans to install additional reclosers etc in favour of safety related asset renewals.
Expenditure on non-network assets	$17,255,785	$15,695,280	-9.0%	We have shifted circa $1M of communication network expenditure into network Capex and made some minor adjustments to various ICT project costs and timing.
Opex				
Service interruptions and emergencies	$24,127,457	$24,127,457	0%	As outlined in section 2.1.2 we see a downward trend in the need for fault response but it is too early to adjust this forecast.
Vegetation management	$22,619,653	$22,619,653	0%	We envisage the CPP Determination allowance to be sufficient but will undertake annual forecast reviews.
Routine, corrective maintenance and inspection	$50,376,231	$50,376,231	0%	We anticipate any cost savings on service interruptions and emergencies will be channelled into further expenditure in this category.

[2] In simple terms, a 'capacity event' is a situation where growth on the network, and the associated need for additional capacity, was not sufficiently certain, or could not reasonably have been foreseen, at the time the CPP was determined. Aurora can apply to the Commission to reconsider the price-quality path under the CPP, with a view to the Commission approving additional revenue, if a capacity event has occurred.

	CPP DETERMINATION	AMP 2022	% CHANGE	COMMENTS
System operations and network support	$75,470,412	$75,709,959	0.3%	The key changes to our non-network Opex plans are outlined in section 2.1.2.
Business support	$74,642,105	$74,401,650	-0.3%	The key changes to our non-network Opex plans are outlined in section 2.1.2.

2.2. PROJECTS AND PROGRAMMES

Our Capex and Opex was further broken down into 40 projects and programmes in our CPP application. The Commission determined our final expenditure allocations across each of the 40 projects and programmes.

In chapters 3 to 8 of this PPDP, we detail:

- our forecast expenditure for each project and programme over the CPP period at both a total network and pricing region level
- the expenditure that was proposed by us in our CPP application
- the expenditure that was provided for by the Commission for each project and programme in its CPP Determination
- the variance between our AMP 2022 forecast expenditure and:
  - the expenditure applied for in our CPP application
  - the Commission's CPP Determination expenditure

  with reasons for why and how that forecast expenditure varies in material respects from our CPP application and the Commission's allocated expenditure[3]

Further visual representation of the expenditure is included in graphs that can be found in Appendix C.

[3] The Commission did not specify in the CPP Determination what it considered a material variance to be. For the purposes of this PPDP, we have considered that any increase or decrease in expenditure over the CPP period for a particular project or programme of more than 5% to be a material variance.

3. RENEWALS CAPEX PROJECTS AND PROGRAMMES

The renewals Capex category includes the following seven expenditure portfolios, that are used for budgeting purposes:

- support structures
- overhead conductors
- cables
- zone substations
- distribution switchgear
- distribution transformers
- secondary systems

These seven portfolios, in turn, include 27 asset fleets. Our day-to-day asset management is at the fleet level. Fleets are also the basis for medium-term forecasts and make up the projects and programmes that form the basis of our renewals Capex.

The particular drivers for our investment in renewing our asset fleets over the planning period are discussed in our 2022 AMP. The overall driver is that renewing network assets is essential to maintaining the overall health and condition of an electricity network. Not doing so would allow deteriorating condition to increase safety and reliability risks due to the higher likelihood of asset failure. Reducing the volumes of 'at-risk' assets is a key driver for our CPP investment plans.

Table 2: Renewals capital expenditure for each project and programme during the CPP period.

PROJECTS AND PROGRAMMES	RY22	RY23	RY24	RY25	RY26	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Poles							
Total forecast expenditure	$17,909,642	$13,834,096	$13,024,713	$12,197,142	$12,005,080	$68,970,672	– High safety impact fleet –increased investment was prudent to match the risk profile – Large portion of additional funding was transferred from crossarm and high voltage distribution cable renewal programmes as a result of risk balancing – Note that actual pole remediation renewals will be informed by inspection results, and this may vary from the forecast volumes which are based on modelling informed by type and age profiles
Dunedin	$5,317,520	$5,776,911	$7,071,624	$6,953,511	$8,617,700	$33,737,266	
Central Otago and Wānaka	$12,592,122	$5,435,431	$4,436,853	$4,103,711	$2,738,456	$29,306,574	
Queenstown	$-	$2,621,754	$1,516,236	$1,139,920	$648,923	$5,926,833	
CPP Application	$13,366,783	$12,269,718	$11,942,407	$7,442,316	$6,898,034	$51,919,257	
CPP Determination	$11,887,236	$10,819,409	$10,457,623	$6,251,834	$5,732,584	$45,148,686	
Variance (Application / Determination)						32.8%/52.8%	
Crossarms							
Total forecast expenditure	$3,712,500	$6,306,430	$5,759,423	$5,214,187	$5,269,602	$3,712,500	– We adjusted the numbers to balance with the closely related pole replacement programme (numbers of crossarms reduced in RY25 and RY26 and funding relocated to pole replacement programme) – Note that elevated expenditure in the pole programme also includes new crossarms on each pole so the net impact is less than depicted in these expenditure reductions
Dunedin	$1,100,000	$3,102,700	$3,788,133	$3,273,891	$2,973,498	$1,100,000	
Central Otago and Wānaka	$2,612,500	$3,203,730	$1,308,577	$1,797,206	$2,011,657	$2,612,500	
Queenstown	$-	$-	$662,713	$143,090	$284,447	$-	
CPP Application	$6,864,187	$8,822,737	$8,849,678	$8,748,082	$8,647,819	$41,932,503	
CPP Determination	$6,775,599	$8,689,241	$8,682,624	$8,586,408	$8,491,655	$41,225,526	
Variance (Application / Determination)						-37.4%/-36.3%	

PROJECTS AND PROGRAMMES	RY22	RY23	RY24	RY25	RY26	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Sub-transmission conductor							
Total forecast expenditure	$2,377,000	$270,000	$2,405,097	$1,423,963	$414,867	$6,890,927	– We reduced the investment in renewal of this fleet based on new information about its condition and therefore lower safety risk than originally anticipated – We will continue to monitor the condition and risk associated with our sub-transmission conductor relative to other fleets and prioritise accordingly
Dunedin	$2,372,000	$-	$2,405,097	$1,409,871	$-	$6,186,968	
Central Otago and Wānaka	$5,000	$-	$-	$-	$-	$5,000	
Queenstown	$-	$270,000	$-	$14,092	$414,867	$698,959	
CPP Application	$6,936,218	$8,453,898	$1,056,585	$448,862	$470,031	$17,365,594	
CPP Determination	$6,423,135	$7,850,764	$980,032	$418,228	$439,583	$16,111,743	
Variance (Application / Determination)						-60.3%/-57.2%	
Distribution conductor							
Forecast expenditure	$7,227,604	$7,973,541	$5,848,989	$6,443,093	$5,824,537	$33,317,763	– We increased investment in overhead distribution conductor replacement based on its risk profile (mainly safety criticality)
Dunedin	$3,207,700	$3,589,441	$3,536,401	$3,204,661	$1,238,768	$14,776,970	
Central Otago and Wānaka	$4,019,904	$4,384,100	$2,298,191	$3,165,704	$3,315,230	$17,183,128	
Queenstown	$-	$-	$14,398	$72,727	$1,270,539	$1,357,665	
CPP Application	$4,914,452	$5,945,100	$6,579,846	$6,915,030	$6,597,001	$30,951,428	
CPP Determination	$4,550,922	$5,520,953	$6,103,114	$6,443,093	$6,169,664	$28,787,745	
Variance (Application / Determination)						7.6%/15.7%	
Low voltage conductor							
Forecast expenditure	$111,000	$606,934	$2,721,055	$4,751,722	$3,835,399	$30,951,428	– With the exception of small conductor road crossings, the risk in the low voltage conductor fleet is lower than the distribution conductor fleet and we have prioritised accordingly
Dunedin	$63,000	$126,884	$2,459,567	$3,942,387	$3,004,374	$12,026,111	
Central Otago and Wānaka	$48,000	$480,050	$207,510	$755,722	$759,153	$9,596,212	
Queenstown	$-	$-	$53,978	$53,613	$71,872	$2,250,435	
CPP Application	$2,375,528	$4,409,551	$4,708,914	$5,099,771	$5,137,989	**$21,731,752**	
CPP Determination	$2,199,806	$4,094,956	$4,367,737	$4,751,722	$4,805,163	**$20,219,385**	
Variance (Application / Determination)						-44.7%/-40.5%	
Sub-transmission cables							
Forecast expenditure	$37,750	$-	$2,313,937	$2,867,662	$1,572,564	$6,791,913	– All underground cables have a low safety critically for most of their length. Our programme will be targeting safety-sensitive exposed parts of the underground cables including older types of terminations (including CIPH) – Some funding from RY25 is moved to overhead structures programmes. Some funding from RY24 is moved to pole mounted switches as this fleet has a poor safety risk profile. From RY26 funding is moved to poles as to boost higher risk profile works
Dunedin	$27,750	$-	$2,313,937	$2,867,662	$1,572,564	$6,781,913	
Central Otago and Wānaka	$10,000	$-	$-	$-	$-	$10,000	
Queenstown	$-	$-	$-	$-	$-	$-	
CPP Application	$-	$2,140,614	$3,295,126	$3,208,972	$4,918,397	**$13,563,108**	
CPP Determination	$-	$1,981,558	$3,052,901	$2,990,466	$4,601,678	**$12,626,603**	
Variance (Application / Determination)						-49.9%/-46.2%	
Distribution cables							
Forecast expenditure	$4,275,200	$1,914,603	$1,731,632	$1,798,462	$1,000,391	$10,720,287	– A large proportion of this expenditure category is associated with the replacement of cast iron pot heads (CIPH)
Dunedin	$4,270,200	$1,909,603	$1,584,255	$1,797,687	$1,000,391	$10,562,136	
Central Otago and Wānaka	$5,000	$5,000	$147,377	$-	$-	$157,377	

PROJECTS AND PROGRAMMES	RY22	RY23	RY24	RY25	RY26	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Queenstown	$-	$-	$-	$775	$-	$775	– We are targeting removal of all CIPH terminations from our network over the CPP Period. We are prioritising these by public safety criticality zone
CPP Application	$2,040,236	$2,114,404	$2,162,797	$1,998,396	$1,252,240	**$9,568,073**	
CPP Determination	$1,522,840	$1,646,985	$1,768,963	$1,829,139	$1,181,361	**$7,949,289**	
Variance (Application / Determination)						**12.0%/34.9%**	
Low voltage cables							
Forecast expenditure	$40,000	$10,000	$285,953	$289,994	$294,781	$920,728	– All underground cables have a low safety critically for most of their length. Our programme will be targeting safety-sensitive exposed parts of the U underground cables, including older types of terminations (including CIPH)
Dunedin	$35,000	$5,000	$285,953	$288,175	$294,781	$908,909	
Central Otago and Wānaka	$5,000	$5,000	$-	$-	$-	$10,000	
Queenstown	$-	$-	$-	$1,818	$-	$1,818	
CPP Application	$465,673	$535,034	$616,017	$684,549	$789,271	**$3,090,544**	
CPP Determination	$287,231	$296,185	$304,684	$313,807	$322,081	**$1,523,988**	
Variance (Application / Determination)						**-70.2%/-39.6%**	
Zone substations							
Forecast expenditure	$8,081,306	$16,433,548	$7,835,732	$8,999,428	$5,614,939	$46,964,953	– Our investment in zone substation asset renewal is by and large consistent with our original plan – Most zone substation assets do not represent a direct safety risk to public, however they do represent a significant risk to the network functionality as a whole, and a safety risk to workers undertaking activities on site – There are a number of zone substations requiring renewal investment over the 10-year AMP period and it is prudent to progress this work to reduce worker risk, maintain network performance and to avoid an undeliverable peak of work later
Dunedin	$5,740,000	$10,545,240	$4,146,614	$5,404,061	$2,421,675	$28,257,590	
Central Otago and Wānaka	$1,571,306	$3,636,837	$2,656,923	$1,111,223	$1,958,730	$10,935,019	
Queenstown	$770,000	$2,251,471	$1,032,195	$2,484,145	$1,234,534	$7,772,345	
CPP Application	$10,833,745	$6,021,297	$10,891,849	$11,219,400	$5,459,241	**$44,425,532**	
CPP Determination	$10,008,630	$5,562,101	$10,072,540	$10,413,569	$5,071,293	**$41,128,133**	
Variance (Application / Determination)						**5.7%/14.2%**	
Ground mounted switchgear							
Forecast expenditure	$3,570,096	$3,978,659	$2,658,943	$2,466,916	$1,596,074	$14,270,688	– This programme is broadly consistent with our CPP Application and the CPP Determination with relatively minor changes to enable risk prioritisation with other fleets
Dunedin	$3,555,096	$3,783,659	$2,638,573	$2,175,533	$1,438,795	$13,591,656	
Central Otago and Wānaka	$15,000	$10,000	$10,185	$10,368	$146,648	$192,201	
Queenstown	$-	$185,000	$10,185	$281,014	$10,632	$486,831	
CPP Application	$3,157,255	$3,320,158	$3,246,798	$3,308,604	$1,988,395	**$15,021,209**	
CPP Determination	$2,874,511	$3,048,312	$2,994,349	$3,070,728	$1,844,006	**$13,831,907**	
Variance (Application / Determination)						**-6.0%/2.1%**	
Pole mounted fuses							
Forecast expenditure	$28,000	$76,400	$219,543	$234,147	$255,922	$814,012	– To enable prioritisation of other fleets we have reduced our forecast in this fleet of relatively lower risk – We are investigating the use of a lower risk fuse cartridge type in areas of high fire risk, with a targeted renewal of the cartridge in those areas
Dunedin	$19,000	$53,200	$219,543	$234,147	$250,591	$776,480	
Central Otago and Wānaka	$9,000	$23,200	$-	$-	$5,332	$37,532	
Queenstown	$-	$-	$-	$-	$-	$-	
CPP Application	$256,249	$278,079	$301,078	$318,477	$325,056	**$1,478,940**	
CPP Determination	$176,543	$205,140	$224,500	$244,863	$260,669	**$1,111,716**	
Variance (Application / Determination)						**-45.0%/-26.8%**	

PROJECTS AND PROGRAMMES	RY22	RY23	RY24	RY25	RY26	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Pole mounted switches							
Forecast expenditure	$130,250	$140,000	$1,118,428	$549,905	$563,644	$1,478,940	– To enable prioritisation of other fleets we have reduced our forecasts slightly in this fleet of relatively lower risk
Dunedin	$14,000	$28,000	$524,829	$549,905	$438,390	$2,502,227	
Central Otago and Wānaka	$116,250	$112,000	$336,407	$-	$125,254	$1,555,124	
Queenstown	$-	$-	$257,192	$-	$-	$689,911	
CPP Application	$614,297	$627,115	$640,264	$587,468	$532,787	**$3,001,931**	
CPP Determination	$530,504	$540,014	$549,815	$560,329	$571,048	**$2,751,710**	
Variance (Application / Determination)						**-16.6%/-9.1%**	
Low voltage enclosures							
Forecast expenditure	$157,000	$194,000	$1,746,131	$1,259,189	$1,316,934	$4,673,253	– We have undertaken a significant number of low voltage enclosure inspections since our CPP Application and we consider this fleet having lower risk profile than some other safety-critical assets and therefore could defer the investment to the later part of the programme
Dunedin	$137,000	$119,000	$1,725,708	$1,238,376	$1,316,934	$4,537,018	
Central Otago and Wānaka	$20,000	$75,000	$10,211	$10,407	$-	$115,618	
Queenstown	$-	$-	$10,211	$10,407	$-	$20,618	
CPP Application	$1,982,896	$2,101,531	$2,138,860	$1,958,972	$1,668,051	**$9,850,311**	
CPP Determination	$1,957,306	$2,069,733	$2,098,485	$1,922,768	$1,637,929	**$9,686,221**	
Variance (Application / Determination)						**-52.6%/-51.8%**	
Ancillary distribution substation equipment							
Forecast expenditure	$371,516	$999,450	$1,052,886	$1,073,016	$549,753	4,046,622	– These assets have lower safety risk than some other fleets, which allowed us to prioritise investment into other fleets over the CPP Period
Dunedin	$29,000	$631,950	$1,052,886	$1,073,016	$549,753	3,336,606	
Central Otago and Wānaka	$342,516	$367,500	$-	$-	$-	710,016	
Queenstown	$-	$-	$-	$-	$-	-	
CPP Application	$807,683	$1,377,324	$1,190,931	$1,215,553	$1,240,662	**$5,832,152**	
CPP Determination	$757,396	$1,288,660	$1,110,028	$1,133,433	$1,157,345	**$5,446,862**	
Variance (Application / Determination)						**-30.6%/-25.7%**	
Ground mounted distribution transformers							
Forecast expenditure	$-	$170,000	$492,088	$787,090	$935,974	$2,385,152	– While this is a relatively small expenditure programme, we have detected a greater than originally anticipated and growing risk associated with this fleet. We have increased investment in this fleet over the CPP Period to address this risk and create a deliverable work programme taking account of the availability of specific skillsets
Dunedin	$-	$170,000	$492,088	$787,090	$935,974	$2,385,152	
Central Otago and Wānaka	$-	$-	$-	$-	$-	$-	
Queenstown	$-	$-	$-	$-	$-	$-	
CPP Application	$329,996	$331,924	$334,176	$335,904	$394,099	**$1,726,099**	
CPP Determination	$299,338	$303,436	$306,668	$310,100	$363,491	**$1,583,032**	
Variance (Application / Determination)						**38.2%/50.7%**	
Pole mounted distribution transformers							
Forecast expenditure	$353,996	$923,599	$1,941,557	$1,973,290	$2,429,561	$7,622,003	– We propose a more targeted programme of work on this fleet that will achieve a satisfactory critical risk reduction with lower investment in this fleet, enabling prioritisation in other parts of our overhead asset fleets
Dunedin	$204,296	$513,742	$1,197,294	$1,229,263	$1,749,284	$4,893,878	
Central Otago and Wānaka	$149,700	$409,857	$711,904	$711,678	$518,306	$2,501,446	

PROJECTS AND PROGRAMMES	RY22	RY23	RY24	RY25	RY26	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Queenstown	$-	$-	$32,359	$32,349	$161,971	$226,679	
CPP Application	$2,170,044	$3,032,769	$3,686,022	$4,013,407	$4,169,920	**$17,072,163**	
CPP Determination	$993,459	$2,163,666	$3,382,599	$3,705,097	$3,846,053	**$14,090,874**	
Variance (Application / Determination)						**-55.4%/-45.9%**	
Protection							
Forecast expenditure	$923,800	$1,730,000	$1,922,695	$1,334,965	$1,367,331	$7,278,791	– We have made very good progress on the renewal of retrofitted zone substation protection systems through RY21 and RY22 with some projects being delivered under budget – Most zone substation projects driven by primary asset need will also include renewal of protection systems and we will therefore continue to make good progress to address current and emerging risks in this fleet – The adjustments we have made to our forecast expenditure in this fleet reflect recent progress to reduce risk and a reassessment of deliverability over the CPP Period taking account of common resources required to deliver our zone substation programme
Dunedin	$903,800	$885,000	$1,922,695	$1,334,965	$1,239,144	$6,285,604	
Central Otago and Wānaka	$20,000	$845,000	$-	$-	$128,187	$993,187	
Queenstown	$-	$-	$-	$-	$-	$-	
CPP Application	$2,471,169	$2,531,217	$2,124,498	$1,484,767	$1,515,982	**$10,127,633**	
CPP Determination	$2,315,138	$2,367,537	$1,977,508	$1,383,645	$1,415,525	**$9,459,352**	
Variance (Application / Determination)						**-28.1%/-23.1%**	
DC Systems							
Forecast expenditure	$563,792	$480,000	$749,226	$820,117	$840,001	$3,453,136	– For sites with duplicated battery systems, these assets have lower safety risk than some other fleets, which allowed us to prioritise investment into other fleets over the CPP Period
Dunedin	$498,292	$385,000	$402,104	$643,122	$543,857	$2,472,376	
Central Otago and Wānaka	$65,500	$95,000	$347,122	$176,994	$296,144	$980,760	
Queenstown	$-	$-	$-	$-	$-	$-	
CPP Application	$710,805	$812,796	$834,186	$926,041	$945,509	**$4,229,336**	
CPP Determination	$665,924	$760,237	$776,470	$862,972	$882,854	**$3,948,457**	
Variance (Application / Determination)						**-18.4%/-12.5%**	
Remote terminal units							
Forecast expenditure	$300,000	$190,000	$171,815	$262,821	$269,193	$1,193,830	– We have made a modest reduction to our forecast expenditure in this asset fleet to enable investment to be prioritised into other higher safety risk fleets over the CPP Period
Dunedin	$100,000	$115,000	$85,908	$-	$-	$300,908	
Central Otago and Wānaka	$200,000	$75,000	$-	$87,607	$179,462	$542,069	
Queenstown	$-	$-	$85,908	$175,214	$89,731	$350,853	
CPP Application	$87,957	$90,094	$254,279	$330,698	$361,768	**$1,124,797**	
CPP Determination	$82,403	$84,268	$236,686	$308,176	$337,796	**$1,049,329**	
Variance (Application / Determination)						**13.8%/6.1%**	

4. GROWTH AND SECURITY CAPEX PROJECTS AND PROGRAMMES

Growth and security investments ensure the capacity of our network is adequate to meet the peak demand of our customers, with appropriate supply security, now and into the future. Growth and security Capex includes two expenditure portfolios:

- major growth and security projects
- distribution and LV reinforcements

Since making our CPP application, we have identified additional growth and security Capex projects that we will need to deliver during the CPP Period. Some of these can be accommodated within the Capex allowance that the Commission provided in the CPP Determination. There are, however, three distinct projects that we are not able to accommodate within the Capex allowance and will therefore be applying to the Commission to have them approved as "capacity events" within the Input Methodologies. The tables in this section reflect these different projects with:

- Table 3 detailing the projects that were included in our CPP application and the CPP Determination
- Table 4 detailing the projects that were not included in our CPP application and CPP Determination, and are unlikely to qualify as "capacity events" so must be accommodated within the Capex allowance
- Table 5 detailing the projects that we will apply for approval as "capacity events"

Table 3: Growth and security Capex for each project and programme during the CPP Period

PROJECTS AND PROGRAMMES	RY22	RY23	RY24	RY25	RY26	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Distribution and LV reinforcement							
Total forecast expenditure	$2,772,145	$2,475,000	$4,170,569	$3,627,169	$3,511,410	$16,556,293	– Multiple cases of demand growing faster than anticipated
Dunedin	$100,000	$80,000	$460,332	$172,806	$438,077	$1,251,216	
Central Otago and Wānaka	$2,622,145	$2,345,000	$3,040,751	$3,281,557	$2,798,599	$14,088,052	
Queenstown	$50,000	$50,000	$669,486	$172,806	$274,733	$1,217,026	
CPP application	$3,107,898	$2,506,455	$2,627,749	$3,430,845	$3,580,395	**$15,253,342**	
CPP Determination	$2,879,791	$2,327,389	$2,437,819	$3,194,116	$3,339,869	**$14,178,984**	
Variance (Application / Determination)						8.5%/16.8%	
Arrowtown 33 kV Ring Upgrade							
Total forecast expenditure	$-	$2,885,516	$3,326,946	$-	$-	$6,212,462	– Revised cost estimates for this project have required an adjusted budget, leading to an increase in forecast expenditure in the CPP Period
Dunedin	$-	$-	$-	$-	$-	-	
Central Otago and Wānaka	$-	$-	$-	$-	$-	-	
Queenstown	$-	$2,885,516	$3,326,946	$-	$-	$6,212,462	
CPP application	$-	$4,235,137	$1,636,298	$-	$-	$5,871,435	
CPP Determination	$-	$3,930,553	$1,517,384	$-	$-	$5,447,938	
Variance (Application / Determination)						5.8%/14.0%	

PROJECTS AND PROGRAMMES	RY22	RY23	RY24	RY25	RY26	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Arrowtown Zone Substation 33 kV Indoor Switchgear							
Total forecast expenditure	$-	$-	$-	$1,035,161	$1,575,952	$2,611,113	– The project is expected to be delivered just under the CPP Determination expenditure allowance
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$-	$-	$-	$-	
Queenstown	$-	$-	$-	$1,035,161	$1,575,952	$2,611,113	
CPP application	$-	$-	$1,145,485	$1,749,204	$-	$2,895,689	
CPP Determination	$-	$-	$1,063,988	$1,628,569	$-	$2,692,557	
Variance (Application / Determination)						-9.8%/-3.0%	
Omakau New Zone Substation							
Total forecast expenditure	$895,714	$1,807,536	$289,903	$-	$-	$2,993,153	– The project is expected to be delivered very close to the CPP Determination expenditure allowance
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$895,714	$1,807,536	$289,903	$-	$-	$2,993,1533	
Queenstown	$-	$-	$-	$-	$-	$-	
CPP application	$930,329	$-	$2,278,711	$-	$-	$3,208,040	
CPP Determination	$865,397	$-	$2,116,220	$-	$-	$2,981,617	
Variance (Application / Determination)						-6.7%/0.4%	
Smith Street to Willowbank Inter-tie							
Total forecast expenditure	$-	$2,028,730	$3,201,172	$-	$-	$5,229,902	– The CPP Determination concluded that the business case for this investment was not sufficient to proceed – We have reviewed our business case and concluded that this project enables a prudent and efficient deferral of the Willowbank 33 kV cables, and takes a major step towards enhanced security and resiliency of supply to central Dunedin – The timing of this project is set to align with works at Smith St zone substation and major works on central Dunedin streets – This project has been facilitated within the expenditure allowance by reprioritisation of other projects and programmes in the CPP Period
Dunedin	$-	$2,028,730	$3,201,172	$-	$-	$5,229,902	
Central Otago and Wānaka	$-	$-	$-	$-	$-	$-	
Queenstown	$-	$-	$-	$-	$-	$-	
CPP application	$-	$3,219,562	$2,370,649	$-	$-	$5,590,211	
CPP Determination	$-	$-	$-	$-	$-	-	
Variance (Application / Determination)						-6.4%/n/a	

Table 4: New growth and security Capex projects during the CPP Period that are within the Capex allowance

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
New Arrowtown substation							
Total forecast expenditure	$-	$70,000	$579,806	$-	$-	$649,806	– Purchase new site to has adequate space for the installation of new 33 kV indoor switchgear, zone transformers and new 11 kV indoor switchgears
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$-	$-	$-	$-	
Queenstown	$-	$70,000	$579,806	$-	$-	$649,806	
Lindis transformer fans installation							

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Total forecast expenditure	$-	$-	$289,903	$-	$-	$289,903	– Short term solution to increase capacity to meet immediate demand growth before installation of the second transformer
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$289,903	$-	$-	$289,903	
Queenstown	$-	$-	$-	$-	$-	$-	
Upper Clutha voltage support							
Total forecast expenditure	$763,597	$940,000	$-	$-	$-	$1,703,597	– Mitigate voltage constraint in the two Upper Clutha 66kV sub-transmission line during peak load and when one circuit is out of service and avoid voltage collapse – Ensures that the voltages are within the regulatory limits and removes the risk to shed customer load to maintain voltage within the regulatory limits
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$763,597	$940,000	$-	$-	$-	$1,703,597	
Queenstown	$-	$-	$-	$-	$-	$-	
Frankton zone substation upgrade							
Total forecast expenditure	$-	$-	$193,269	$684,213	$-	$877,482	– Increase firm capacity of Frankton substation with the replacement of the 15 MVA transformer with 24 MVA rated transformer to meet the growing demand wherein the last four years, the peak demand has exceeded the firm capacity
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$-	$-	$-	$-	
Queenstown	$-	$-	$193,269	$684,213	$-	$877,482	
Arrowtown zone substation reconfiguration							
Total forecast expenditure	$170,697	$-	$-	$-	$-	$170,697	– Reconfigure the existing substation to increase security and reliability by having the ability to transfer load to the third transformer when one of the two other transformers is out of service – Increase asset utilisation by operating the third transformers with a load rather than a standby asset
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$-	$-	$-	$-	
Queenstown	$170,697	$-	$-	$-	$-	$170,697	
Transfer switch for Roaring MEG generation							
Total forecast expenditure	$-	$70,000	$-	$-	$-	$70,000	– Provide the ability to shift Roaring MEG generation to another circuit for Aurora to avoid compensation for loss of generation during planned and unplanned outages
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$70,000	$-	$-	$-	$70,000	
Queenstown	$-	$-	$-	$-	$-	$-	
Frankton GXP Special Protection Scheme (SPS) interface							
Total forecast expenditure	$90,000	$-	$-	$-	$-	90,000	– Transpower's SPS project increases the pre-contingent capacity of the 110 kV transmission line. SPS would operate when one of the transmission lines is out of service and the load is above the capacity of the remaining line. Operation of SPS would drop Aurora's 33 kV sub-transmission circuits shedding customer load – Interface work with Transpower's SPS project is to minimise the risk of operating the SPS and avoid outage of customers
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$-	$-	$-	$-	
Queenstown	$90,000	$-	$-	$-	$-	$90,000	
CML – MEG – CA line route feasibility study							
Total forecast expenditure	$400,000	$-	$-	$-	$-	$400,000	

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Dunedin	$-	$-	$-	$-	$-	$-	– Conduct a feasibility study on the proposed line routes to identify necessary easement requirements and resource consents that is required
Central Otago and Wānaka	$400,000	$-	$-	$-	$-	$400,000	
Queenstown	$-	$-	$-	$-	$-	$-	
Upper Clutha Special Protection Scheme							
Total forecast expenditure	$-	$-	$70,466	$204,641	$-	**$275,107**	– Special Protection Scheme to maximise the pre-contingent capacity of the Upper Clutha circuits and limit the impact of major outage when one of the circuits is out of service
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$70,466	$204,641	$-	$275,107	
Queenstown	$-	$-	$-	$-	$-	$-	
Upper Clutha auto transformer replacement							
Total forecast expenditure	$-	$-	$562,412	$899,251	$2,281,733	**$3,743,396**	– To meet the significant demand growth currently being experienced around the Upper Clutha region. The increase in demand growth is shown on the increase in capacity projects of Cardrona substation, Wānaka substation and Lindis Crossing
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$562,412	$899,251	$2,281,733	**$3,743,396**	
Queenstown	$-	$-	$-	$-	$-	$-	
Omakau generators							
Total forecast expenditure	$1,073,600	$-	$-	$-	$-	$1,073,600	– Provide emergency power supply when the single sub-transmission and single transformer of the substation is out of service due to planned and unplanned outages
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$1,073,600	$-	$-	$-	$-	$1,073,600	
Queenstown	$-	$-	$-	$-	$-	$-	
Camp Hill generators							
Total forecast expenditure	$595,600	$-	$-	$-	$-	$595,600	– Provide emergency power supply when the single sub-transmission and single transformer of the substation is out of service due to planned and unplanned outages
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$595,600	$-	$-	$-	$-	$595,600	
Queenstown	$-	$-	$-	$-	$-	$-	

Table 5: New growth and security Capex projects forecast during the CPP Period for which approval as a "capacity event" will be sought

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Riverbank new transformer							
Total forecast expenditure	$-	$300,000	$871,826	$2,741,846	$-	**$3,913,671**	– The peak demand of Wānaka substation has exceeded its firm capacity in the last two years. The demand growth is rapidly increasing and will continue to increase with known developments – This project will transfer load from Wānaka substation to Riverbank substation – Both substations will supply the strong demand growth in Wānaka area
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$300,000	$871,826	$2,741,846	$-	**$3,913,671**	
Queenstown	$-	$-	$-	$-	$-	$-	
Lindis Crossing second transformer							

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Total forecast expenditure	$-	$-	$-	$-	$148,809	$148,809	– Initial cost for design work – The project is to increase capacity and meet the growing demand in Bendigo and Tarras – Provides the ability to back feed the adjacent Queensberry substation which has only one transformer – Provides additional 11 kV feeders into the Bendigo area to reduce load of existing feeders and improve back feed for planned and unplanned outages
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$-	$-	$-	$-	$148,809	$148,809	
Queenstown	$-	$-	$-	$-	$-	$-	
Cardona substation transformer replacement							
Total forecast expenditure	$300,000	$2,122,475	$-	$-	$-	**$2,422,475**	– Transformer upgrade to 24 MVA to meet projected demand growth of the Cardrona ski field, residential developments and other major developments in the area
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$300,000	$2,122,475	$-	$-	$-	$2,422,475	
Queenstown	$-	$-	$-	$-	$-	$-	

5. OTHER NETWORK CAPEX

Other network Capex includes the remainder of our network related Capex outside the renewals and growth and security categories. It relates to Capex driven by:

- customer requests for new connections and asset relocations
- reliability, safety and environment driven work
- the need to future-proof our network with the introduction of new technology

Consumer connection Capex is externally driven with short lead times which compromises our ability to accurately forecast medium-term requirements. We forecast connection numbers, customer connection capex and capital contributions by trending historical data and including known large developments.

Reliability-driven investments aim to maintain or improve reliability of service at appropriate levels, reflecting the preferences of customers.

Our network evolution investments aim to help prepare us for the wider, future adoption of distributed energy resources. Over the CPP period, we expect to see increasing electric vehicles, photo voltaic installations and battery storage systems installed on our network.

Table 6:: Other network Capex for each project and programme during the CPP Period

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Consumer connection							
Total forecast expenditure	$7,067,505	$7,218,993	$10,154,191	$11,935,553	$14,264,787	$50,641,029	– Stable and greater than expected (pre-Covid forecasting) population growth in the region based on forecasts of regional councils – Significant backlogs of new construction under way mainly in Central in RY23-RY25 – Accelerating demand increase by existing connections material since RY25 and onwards – Decreasing economic activity (slowing new construction towards RY26)
Dunedin	$1,354,670	$1,224,127	$1,952,729	$2,298,699	$2,687,569	$9,517,794	
Central Otago and Wānaka	$3,828,207	$4,291,733	$5,467,642	$6,454,040	$7,752,602	$27,794,223	
Queenstown	$1,884,628	$1,703,133	$2,733,821	$3,182,814	$3,824,617	$13,329,013	
CPP Application	$8,787,736	$8,928,683	$12,110,410	$13,988,086	$16,493,607	$60,308,522	
CPP Determination	$7,067,505	$7,218,993	$10,154,191	$11,935,553	$14,264,787	$50,641,029	
Variance (Application / Determination)						-16.0%/0.0%	
Asset relocations							
Total forecast expenditure	$1,854,650	$1,900,583	$1,731,440	$1,762,622	$1,807,445	$9,056,739	– Greater than originally anticipated asset relocations and economic activity over the last two years have led to an update in this forecast
Dunedin	$276,504	$283,352	$407,398	$414,735	$425,281	$1,807,269	
Central Otago and Wānaka	$380,193	$389,609	$509,247	$518,418	$531,601	$2,329,068	
Queenstown	$1,197,953	$1,227,622	$814,795	$829,469	$850,562	$4,920,402	
CPP Application	$2,001,545	$2,046,449	$2,095,123	$2,138,409	$2,181,927	$10,463,453	
CPP Determination	$1,854,650	$1,900,583	$1,944,636	$1,992,277	$2,037,307	$9,729,454	
Variance (Application / Determination)						13.4%/-6.9%	
RSE							
Forecast expenditure	$-	$1,107,000	$-	$-	$-	$1,107,000	– The CPP Determination Capex allowance has led to a reprioritisation of our plan to focus more intensely on safety risk reduction. We have chosen to
Dunedin	$-	$15,000	$-	$-	$-	$15,000	
Central Otago and Wānaka	$-	$1,092,000	$-	$-	$-	$1,092,000	

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Queenstown	$-	$-	$-	$-	$-	$-	– defer the proposed investment in new reclosers and remotely operable switched in RY25 and RY26 until while we deliver our safety focussed plan – We have made a small allowance for an improvement in Central and Frankton where network performance is not commensurate with customer expectation or typical network performance
CPP Application	$-	$-	$-	$756,313	$771,842	**$1,528,155**	
CPP Determination	$-	$-	$-	$705,358	$719,778	**$1,425,136**	
Variance (Application / Determination)						**-27.6%/-22.3%**	
Future networks							
Forecast expenditure	$389,200	$298,620	$376,843	$248,841	$244,537	$1,558,040	– Our updated forecast reflects an ongoing need beyond RY25 to invest in network evolution to support the electrification and decarbonisation of our communities
Dunedin	$-	$-	$-	$-	$-	$-	
Central Otago and Wānaka	$389,200	$149,310	$188,421	$124,420	$122,268	$973,620	
Queenstown	$-	$149,310	$188,421	$124,420	$122,268	$584,420	
CPP Application	$478,201	$487,631	$244,758	$249,333	$-	**$1,459,923**	
CPP Determination	$449,132	$456,477	$228,650	$232,721	$-	**$1,366,980**	
Variance (Application / Determination)						**6.7%/14.0%**	

Since making our CPP application, we have identified additional consumer connection Capex projects that we forecast we will need to undertake within the CPP period. This Capex was not included in our CPP application, and consequently not included in the CPP Determination. This expenditure will result in us exceeding our Capex allowance and we intend to apply to the Commission for approval of those projects under the "capacity event" provisions in the Input Methodologies. That expenditure is set out in Table 7 below.

Table 7: New consumer connections Capex forecast during the CPP Period for which approval as a "capacity event" will be sought

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Consumer Connections							
Total forecast expenditure	$4,681,495	$6,344,701	$3,086,229	$2,061,742	$407,410	$16,581,577	– New Dunstan substation for data centre including distribution lines
Dunedin	$897,330	$1,075,873	$593,506	$397,076	$76,758	$3,040,543	
Central Otago and Wānaka	$2,535,793	$3,771,961	$1,661,816	$1,114,868	$221,419	$9,305,856	
Queenstown	$1,248,372	$1,496,867	$830,908	$549,798	$109,233	$4,235,178	
Asset Relocations							
Total forecast expenditure	$763,508	$782,417	$-	$-	$-	$1,545,925	
Dunedin	$113,829	$116,648	$-	$-	$-	$230,477	
Central Otago and Wānaka	$156,515	$160,391	$-	$-	$-	$316,906	
Queenstown	$493,164	$505,378	$-	$-	$-	$998,542	

6. NON-NETWORK CAPEX PROJECTS AND PROGRAMMES

Our non-network Capex is split into the following two portfolios:

- ICT: investments in capital items to provide corporate and operational IT solutions
- facilities: includes the capital costs of office equipment and renovation of our corporate sites

Table 8: Non-network Capex for each project and programme during the CPP period.

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
ICT							
Total forecast expenditure	$2,822,874	$3,397,183	$1,761,456	$2,648,338	$1,426,493	$12,056,345	– The material variance within this programme was a shift of communications Capex (circa $1 mil) to network Capex
Dunedin	$1,706,992	$2,054,277	$1,065,153	$1,601,450	$862,601	$7,290,472	
Central Otago and Wānaka	$673,538	$810,568	$420,283	$631,893	$340,361	$2,876,644	
Queenstown	$442,344	$532,339	$276,020	$414,995	$223,532	$1,889,229	
CPP application	$5,594,934	$2,224,834	$2,035,012	$1,851,069	$1,691,013	$13,396,863	
CPP Determination	$5,531,394	$2,192,310	$2,001,145	$1,818,675	$1,657,788	$13,201,312	
Variance (Application / Determination)						-10.0%/-8.7%	
Facilities							
Total forecast expenditure	$870,810	$645,106	$909,625	$599,080	$614,315	$3,638,936	– We reduced our planned facilities expenditure in RY22 and RY23 to enable prioritisation into network Capex renewals – In advance of our ADR, we can advise that COVID-19 has created additional unplanned investment in facilities to create separation of our critical 24/7 operations centres – Facilities expenditure is expected to track close to the CPP Determination over the remaining part of the CPP Period
Dunedin	$526,579	$390,095	$550,050	$362,264	$371,476	$2,200,464	
Central Otago and Wānaka	$207,775	$153,922	$217,036	$142,940	$146,575	$868,250	
Queenstown	$136,456	$101,088	$142,538	$93,876	$96,263	$570,221	
CPP application	$1,094,722	$896,758	$970,806	$651,301	$664,349	$4,277,936	
CPP Determination	$1,051,879	$852,740	$923,215	$607,908	$618,731	$4,054,473	
Variance (Application / Determination)						-14.9%/-10.2%	

7. NETWORK OPEX

Our network Opex forecasts include expenditure on the following:

- **preventive maintenance**: this encompasses inspections, condition assessments and servicing. These are typically activities that are carried out on a regular basis (for example, every 3 months, annually, every 6 years) in accordance with our maintenance standards
- **corrective maintenance**: this is planned work arising from preventive maintenance work or as a follow-up to a fault (following service restoration, also known as 'second response'). It includes defect rectification, repairs and replacement of minor components to restore the condition of an asset
- **reactive maintenance**: this is reactive work, including fault response and emergency switching, carried out in response to an unplanned event or incident that impairs normal network operation
- **vegetation management**: relates to expenditure on tree trimming, inspection and liaison with tree owners

Table 9: Network Opex for each project and programme during the CPP Period

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Preventive							
Total forecast expenditure	$6,703,603	$6,280,440	$6,891,390	$6,107,564	$6,645,859	$32,628,856	– Our network operational expenditure has been set to the CPP Determination – We will need to achieve efficiency gains within all network Opex programmes if we are to deliver all our network Opex plans – Recent trends indicate that improved network performance may lead to a saving in reactive maintenance expenditure, enabling a transfer of Opex allowance to preventive, corrective and vegetation maintenance if the required efficiency gains cannot be achieved
Dunedin	$3,351,801	$3,140,220	$3,445,695	$3,053,782	$3,322,930	$16,314,428	
Central Otago and Wānaka	$2,011,081	$1,884,132	$2,067,417	$1,832,269	$1,993,758	$9,788,657	
Queenstown	$1,340,721	$1,256,088	$1,378,278	$1,221,513	$1,329,172	$6,525,771	
CPP application	$6,824,325	$6,451,211	$7,118,955	$6,311,770	$6,865,133	$33,571,395	
CPP Determination	$6,703,603	$6,280,440	$6,891,390	$6,107,564	$6,645,859	$32,628,856	
Variance (Application / Determination)						-2.8%/0%	
Corrective							
Total forecast expenditure	$3,833,330	$3,836,900	$3,502,838	$3,462,298	$3,112,010	$17,747,375	– See above
Dunedin	$2,491,665	$2,493,985	$2,276,845	$2,250,494	$1,867,206	$11,380,194	
Central Otago and Wānaka	$958,333	$959,225	$875,709	$865,574	$933,603	$4,592,444	
Queenstown	$383,333	$383,690	$350,284	$346,230	$311,201	$1,774,738	
CPP application	$3,948,080	$4,011,892	$3,712,018	$3,695,766	$3,356,996	$18,724,753	
CPP Determination	$3,833,330	$3,836,900	$3,502,838	$3,462,298	$3,112,010	$17,747,375	
Variance (Application / Determination)						-5.2%/0%	
Reactive							
Total forecast expenditure	$4,778,073	$4,812,964	$4,822,022	$4,857,120	$4,857,279	$24,127,457	– See above
Dunedin	$2,389,036	$2,406,482	$2,411,011	$2,428,560	$2,428,639	$12,063,729	
Central Otago and Wānaka	$1,433,422	$1,443,889	$1,446,607	$1,457,136	$1,457,184	$7,238,237	
Queenstown	$955,615	$962,593	$964,404	$971,424	$971,456	$4,825,491	
CPP application	$4,870,125	$4,961,902	$5,015,977	$5,067,977	$5,079,717	$24,995,698	
CPP Determination	$4,778,073	$4,812,964	$4,822,022	$4,857,120	$4,857,279	$24,127,457	

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Variance (Application / Determination)						-3.5%/0%	
Vegetation							
Total forecast expenditure	$5,576,928	$5,255,951	$3,927,095	$3,937,881	$3,921,798	$22,619,653	– See above
Dunedin	$2,113,641	$1,991,992	$1,488,358	$1,492,446	$1,486,351	$8,572,788	
Central Otago and Wānaka	$2,626,978	$2,475,784	$1,849,834	$1,854,915	$1,847,339	$10,654,849	
Queenstown	$836,309	$788,176	$588,902	$590,520	$588,108	$3,392,016	
CPP application	$5,663,114	$5,377,454	$4,039,685	$4,048,136	$4,025,042	$23,153,431	
CPP Determination	$5,576,928	$5,255,951	$3,927,095	$3,937,881	$3,921,798	$22,619,653	
Variance (Application / Determination)						-2.31%/0%	

8. NON-NETWORK OPEX

Our non-network Opex forecasts include expenditure on the following:

- **System operations and network support (SONS):** comprises the management and operation of our network and associated assets
- **Upper Clutha DER solution:** this is a solution to the Upper Clutha growth constraints involving payments for use of third party owned small scale distributed generation and battery systems
- **People costs:** the cost of employing business support staff and external service providers
- **Premise and plant:** incorporates the running costs of our offices and the running and leasing costs of plant and motor vehicles
- **Administration and governance:** comprises governance and general administration costs associated with operating and supporting our business
- **ICT Opex**

Table 10: Non-network Opex for each project and programme during the CPP Period.

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
SONS							
Total forecast expenditure	$13,174,362	$13,632,848	$14,697,942	$16,106,835	$14,978,399	$72,590,386	– See section 2.1.2 for a description of the factors affecting our top-down adjustment of our non-network expenditure categories
Dunedin	$7,966,537	$8,243,783	$8,887,846	$9,739,803	$9,057,438	$43,895,407	
Central Otago and Wānaka	$3,143,403	$3,252,798	$3,506,929	$3,843,091	$3,573,846	$17,320,066	
Queenstown	$2,064,423	$2,136,267	$2,303,168	$2,523,941	$2,347,115	$11,374,914	
CPP application	**16,013,727**	**17,720,852**	**17,195,168**	**17,461,223**	**17,261,915**	**85,652,885**	
CPP Determination	15,821,504	14,747,149	14,366,532	14,024,222	13,241,477	72,200,883	
Variance (Application / Determination)						**-15.3%/0.5%**	
Upper Clutha DER solution							
Total forecast expenditure	$71,082	$625,970	$615,790	$800,070	$1,006,660	$3,119,572	– Adjustments to this expenditure category reflect our most up to date view of the cost and quantity of non-network support needed in the Upper Clutha area – We note that we are seeing a growing interest from flexibility traders in providing non-network solutions and this concept may be extended into other regions where it is economic to defer capital investment
Dunedin	$-	$-	$-	$-	$-	-	
Central Otago and Wānaka	$71,082	$625,970	$615,790	$800,070	$1,006,660	$3,121,149	
Queenstown	$-	$-	$-	$-	$-	-	
CPP application	276,835	635,377	638,550	783,684	985,979	**3,320,425**	
CPP Determination	273,996	625,970	626,003	770,397	973,163	3,269,529	
Variance (Application / Determination)						**-6.1%/-4.6%**	
People costs							
Total forecast expenditure	$7,099,667	$7,006,372	$7,584,600	$8,573,799	$7,701,695	$37,966,134	– See section 2.1.2 for a description of the factors affecting our top-down adjustment of our non-network expenditure categories
Dunedin	$4,293,169	$4,236,753	$4,586,408	$5,184,577	$4,657,215	$22,958,121	
Central Otago and Wānaka	$1,693,981	$1,671,720	$1,809,686	$2,045,709	$1,837,624	$9,058,720	
Queenstown	$1,112,518	$1,097,898	$1,188,507	$1,343,514	$1,206,856	$5,949,293	
CPP application	$8,083,193	$9,441,347	$8,901,005	$8,753,142	$8,949,084	$44,127,770	
CPP Determination	$8,042,863	$8,120,672	$7,573,949	$7,091,223	$7,082,526	$37,911,233	

PROJECTS AND PROGRAMMES	RY22 $	RY23 $	RY24 $	RY25 $	RY26 $	TOTAL ACROSS THE CPP PERIOD	REASONS FOR MATERIAL VARIANCE
Variance (Application / Determination)						-14.0%/0.14%	
Premises and plant							
Total forecast expenditure	$291,691	$304,355	$305,650	$531,052	$562,970	$1,995,718	– See section 2.1.2 for a description of the factors affecting our top-down adjustment of our non-network expenditure categories
Dunedin	$176,386	$184,043	$184,827	$321,127	$340,428	$1,206,811	
Central Otago and Wānaka	$69,597	$72,619	$72,928	$126,709	$134,325	$476,178	
Queenstown	$45,708	$47,692	$47,895	$83,216	$88,217	$312,729	
CPP application	$176,386	$184,043	$184,827	$321,127	$340,428	**$2,189,769**	
CPP Determination	$285,457	$304,355	$310,895	$537,035	$565,413	$2,003,155	
Variance (Application / Determination)						-8.9%/0.4%	
Administration and Governance							
Total forecast expenditure	$2,998,352	$3,234,029	$3,236,321	$3,279,523	$3,383,263	$16,131,487	– See section 2.1.2 for a description of the factors affecting our top-down adjustment of our non-network expenditure categories
Dunedin	$1,813,103	$1,955,617	$1,957,003	$1,983,127	$2,045,859	$9,754,710	
Central Otago and Wānaka	$715,407	$771,639	$772,186	$782,494	$807,246	$3,848,973	
Queenstown	$469,842	$506,772	$507,132	$513,901	$530,157	$2,527,804	
CPP application	$3,210,537	$3,402,611	$3,487,931	$3,538,425	$3,650,969	**$17,290,474**	
CPP Determination	$3,106,600	$3,234,273	$3,291,477	$3,316,442	$3,398,401	$16,347,193	
Variance (Application / Determination)						-6.7%/-1.3%	
ICT Opex							
Total forecast expenditure	$2,844,108	$3,310,509	$4,388,247	$3,874,137	$3,891,310	$18,308,311	– RY22 has been impacted by late starts to software as a service infrastructure development, we expect expenditure for the remainder of the period to be close to the final CPP decision
Dunedin	$1,719,832	$2,001,865	$2,653,573	$2,342,691	$2,353,075	$11,071,036	
Central Otago and Wānaka	$678,604	$789,887	$1,047,036	$924,369	$928,467	$4,368,363	
Queenstown	$445,672	$518,757	$687,638	$607,077	$609,768	$2,868,912	
CPP application	$3,623,125	$3,537,112	$3,818,526	$3,832,299	$3,849,027	**$18,660,089**	
CPP Determination	$3,585,967	$3,484,746	$3,743,491	$3,767,321	$3,798,999	$18,380,524	
Variance (Application / Determination)						-1.9%/-0.4%	

9. ANNUAL DELIVERY REPORTING

The Commission requires us to deliver an annual delivery report (ADR) during each year of the CPP Period to demonstrate how we are delivering against our CPP. For the following areas, the Commission requires us to report in those ADRs how we perform against our forecasts:

- capital and operating expenditure, by Information Disclosure category and pricing region
- quantities of assets to be replaced or renewed within our asset replacement and renewal expenditure, by pricing region
- total average cost of replacing assets within our asset replacement and renewal expenditure, by pricing region
- vegetation management

Appendix D contains our forecasts for each of the above and we will report against these figures in the ADRs that we prepare for RY23 through to RY26.[4]

[4] The ADR requirements for RY22 differ to those for RY23 through to RY26 and do not require us to report performance against forecasts for that regulatory year.

APPENDICES

APPENDIX A. COMPLIANCE MATRIX

This schedule demonstrates how the Project and Programme Delivery Plan complies with the Determination. The reference numbers are consistent with the clause numbers in the Electricity Distribution Disclosure Determination (2012) (consolidated 9 December 2021).

Determination Requirement	Determination Reference	Statement Reference
Aurora must do the following:	Clause 2.5.4	
by 31 March 2022, publicly disclose Aurora's 'project and programme delivery plan' that describes:	Clause 2.5.4(2)	
the capital expenditure and operational expenditure projects and programmes Aurora plans to deliver over the CPP regulatory period, including where and when Aurora plans to deliver those projects and programmes	Clause 2.5.4(2)(a)	Chapters 3 to 8
whether, and if so how and why, the projects and programmes in paragraph (a), and the capital expenditure and operational expenditure required for those projects and programmes, as applicable, differ in material aspects to:	Clause 2.5.4(2)(b)	
the capital expenditure and operational expenditure projects and programmes outlined in Aurora's application for the Aurora CPP; and	Clause 2.5.4(2)(b)(i)	Chapters 3 to 8
the capital expenditure and operational expenditure provided for in the Aurora CPP;	Clause 2.5.4(2)(b)(ii)	Chapters 2 to 8
how Aurora plans to communicate with consumers and other stakeholders when it needs to reprioritise or substitute capital expenditure or operational expenditure projects or programmes during the CPP regulatory period;	Clause 2.5.4(2)(c)	Section 1.2

APPENDIX B. DIRECTORS' CERTIFICATE

SCHEDULE 18

Certification for Disclosures

Clause 2.9.5

We, Stephen Richard Thompson and Margaret Patricia Devlin, being directors of Aurora Energy Limited, certify that, having made all reasonable enquiry, to the best of our knowledge, the information prepared for the purposes of clauses 2.5.4(1) to (3) of the Electricity Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.

Stephen Richard Thompson

Margaret Patricia Devlin

30 March 2022

APPENDIX C. FORECASTS FOR ANNUAL DELIVERY REPORTING

A.1. PROPOSED EXPENDITURE

Table 11: Proposed expenditure during the CPP Period for the Dunedin pricing region

EXPENDITURE CATEGORY	RY22	RY23	RY24	RY25	RY26
Capital expenditure	**$32,569,558**	**$39,008,432**	**$46,083,546**	**$43,654,354**	**$34,448,234**
Consumer connection	$2,252,000	$2,300,000	$2,546,235	$2,695,775	$2,764,327
System growth	$100,000	$2,108,730	$3,661,504	$172,806	$438,077
Asset replacement and renewal	$27,593,654	$31,740,330	$37,853,207	$38,407,324	$29,586,472
Asset relocations	$390,333	$400,000	$407,398	$414,735	$425,281
Quality of supply	$-	$15,000	$-	$-	$-
Legislative and regulatory	$-	$-	$-	$-	$-
Other reliability, safety and environment	$-	$-	$-	$-	$-
Expenditure on non-network assets	$2,233,571	$2,444,372	$1,615,203	$1,963,714	$1,234,077
Operational expenditure	**$26,315,170**	**$26,654,740**	**$27,891,566**	**$28,796,606**	**$27,559,141**
Service interruptions and emergencies	$2,389,036	$2,406,482	$2,411,011	$2,428,560	$2,428,639
Vegetation management	$2,113,641	$1,991,992	$1,488,358	$1,492,446	$1,486,351
Routine and corrective maintenance and inspection	$5,843,466	$5,634,205	$5,722,540	$5,304,276	$5,190,135
Asset replacement and renewal	$-	$-	$-	$-	$-
System operations and network support	$7,966,537	$8,243,783	$8,887,846	$9,739,803	$9,057,438
Business support	$8,002,490	$8,378,279	$9,381,811	$9,831,521	$9,396,577

Table 12: Proposed expenditure during the CPP Period for the Central Otago and Wānaka pricing region

EXPENDITURE CATEGORY	RY22	RY23	RY24	RY25	RY26
Capital expenditure	**$36,628,675**	**$37,567,210**	**$26,060,967**	**$28,044,496**	**$26,526,526**
Consumer connection	$6,364,000	$8,063,694	$7,129,457	$7,568,907	$7,974,020
System growth	$6,650,656	$7,585,011	$5,125,261	$7,127,295	$5,229,140
Asset replacement and renewal	$21,806,798	$19,162,705	$12,471,260	$11,930,621	$12,182,559
Asset relocations	$536,708	$550,000	$509,247	$518,418	$531,601
Quality of supply	$389,200	$1,241,310	$188,421	$124,420	$122,268
Legislative and regulatory	$-	$-	$-	$-	$-
Other reliability, safety and environment	$-	$-	$-	$-	$-
Expenditure on non-network assets	$881,313	$964,490	$637,320	$774,834	$486,937
Operational expenditure	**$13,401,887**	**$13,947,663**	**$14,064,122**	**$14,532,335**	**$14,520,052**
Service interruptions and emergencies	$1,433,422	$1,443,889	$1,446,607	$1,457,136	$1,457,184
Vegetation management	$2,626,978	$2,475,784	$1,849,834	$1,854,915	$1,847,339
Routine and corrective maintenance and inspection	$2,969,413	$2,843,357	$2,943,127	$2,697,844	$2,927,361
Asset replacement and renewal	$-	$-	$-	$-	$-
System operations and network support	$3,214,485	$3,878,768	$4,122,719	$4,643,161	$4,580,506
Business support	$3,157,589	$3,305,866	$3,701,836	$3,879,281	$3,707,662

Table 13: Proposed expenditure during the CPP Period for the Queenstown pricing region

EXPENDITURE CATEGORY	RY22	RY23	RY24	RY25	RY26
Capital expenditure	**$6,483,614**	**$14,049,478**	**$13,431,384**	**$11,496,715**	**$11,264,677**
Consumer connection	$3,133,000	$3,200,000	$3,564,729	$3,732,612	$3,933,850
System growth	$310,697	$3,005,517	$4,769,507	$1,892,180	$1,850,686
Asset replacement and renewal	$770,000	$5,328,225	$3,675,374	$4,409,163	$4,187,517
Asset relocations	$1,691,117	$1,733,000	$814,795	$829,469	$850,562
Quality of supply	$-	$149,310	$188,421	$124,420	$122,268
Legislative and regulatory	$-	$-	$-	$-	$-
Other reliability, safety and environment	$-	$-	$-	$-	$-
Expenditure on non-network assets	$578,800	$633,427	$418,558	$508,870	$319,795
Operational expenditure	**$7,654,139**	**$7,697,934**	**$8,016,208**	**$8,201,336**	**$7,982,050**
Service interruptions and emergencies	$955,615	$962,593	$964,404	$971,424	$971,456
Vegetation management	$836,309	$788,176	$588,902	$590,520	$588,108
Routine and corrective maintenance and inspection	$1,724,054	$1,639,778	$1,728,562	$1,567,743	$1,640,373
Asset replacement and renewal	$-	$-	$-	$-	$-
System operations and network support	$2,064,423	$2,136,267	$2,303,168	$2,523,941	$2,347,115
Business support	$2,073,739	$2,171,120	$2,431,172	$2,547,709	$2,434,999

A.2. ASSET REPLACEMENT AND RENEWAL QUANTITIES AND TOTAL AVERAGE COSTS

Table 14: Proposed quantities of assets to be replaced or renewed, and total average cost of replacing those assets, during the CPP Period for the Dunedin pricing region

ASSET CATEGORY	TOTAL AVERAGE COST OF REPLACING THE ASSET	NUMBER OF ASSETS FORECAST TO BE REPLACED OR RENEWED			
		RY23	RY24	RY25	RY26
Poles	$12,670	457	569	549	664
Crossarms	$2,927	1002	1349	1144	1014
Subtransmission conductors	$284,217	0.000 km	4.500 km	8.304 km	0.000 km
Distribution conductors	$154,884	24.080 km	23.334 km	20.788 km	7.876 km
Low voltage conductors	$131,275	0.830 km	19.320 km	30.444 km	22.740 km
Subtransmission cables	$1,213,058	0.000 km	1.867 km	1.866 km	1.866 km
Distribution cables	$433,925	0.130 km	4.586 km	5.803 km	3.233 km
Low voltage cables	$146,739	0.130 km	1.914 km	1.902 km	1.914 km
Zone substations	$600,574	17	17	18	17
Power transformers	$1,578,931	2	0	2	2
Indoor switchgear	$139,935	15	15	13	15
Outdoor switchgear	$144,168	0	0	2	0
Ancillary zone substation equipment	$131,665	0	0	0	0
Buildings and equipment	$1,008,170	0	2	1	0
Ground mount switchgear	$83,945	26	39	32	21
Pole mounted fuses	$5,275	8	43	45	47
Pole mounted switches	$15,182	2	35	36	28
Reclosers and sectionalisers	$85,731	0	0	0	0
Low voltage enclosures	$5,667	16	323	213	222
Ancillary distribution substation	$4,623	120	111	104	55

ASSET CATEGORY	TOTAL AVERAGE COST OF REPLACING THE ASSET	NUMBER OF ASSETS FORECAST TO BE REPLACED OR RENEWED			
		RY23	RY24	RY25	RY26
Ground mounted distribution transformers	$50,748	2	10	16	19
Pole mounted distribution transformers	$32,592	5	37	38	54
Protection	$20,633	44	94	64	58
DC systems	$74,086	7	5	8	6
Remote terminal units	$111,729	0	1	0	0

Table 15: Proposed quantities of assets to be replaced or renewed, and total average cost of replacing those assets, during the CPP Period for the Central Otago and Wānaka pricing region

ASSET CATEGORY	TOTAL AVERAGE COST OF REPLACING THE ASSET	NUMBER OF ASSETS FORECAST TO BE REPLACED OR RENEWED			
		RY23	RY24	RY25	RY26
Poles	$12,670	430	357	324	211
Crossarms	$2,927	1031	466	628	686
Subtransmission conductors	$284,217	0.000 km	0.000 km	0.000 km	0.000 km
Distribution conductors	$154,884	26.950 km	15.164 km	20.535 km	21.078 km
Low voltage conductors	$131,275	2.836 km	1.630 km	5.836 km	5.746 km
Subtransmission cables	$1,213,058	0.000 km	0.000 km	0.000 km	0.000 km
Distribution cables	$433,925	0.130 km	0.966 km	0.000 km	0.000 km
Low voltage cables	$146,739	0.130 km	0.000 km	0.000 km	0.000 km
Zone substations	$600,574	22	13	0	3
Power transformers	$1,578,931	0	1	0	1
Indoor switchgear	$139,935	16	12	0	0
Outdoor switchgear	$144,168	2	0	0	0
Ancillary zone substation equipment	$131,665	1	0	0	0
Buildings and equipment	$1,008,170	3	0	0	2

ASSET CATEGORY	TOTAL AVERAGE COST OF REPLACING THE ASSET	NUMBER OF ASSETS FORECAST TO BE REPLACED OR RENEWED			
		RY23	RY24	RY25	RY26
Ground mount switchgear	$83,945	0	0	0	2
Pole mounted fuses	$5,275	5	0	0	1
Pole mounted switches	$15,182	8	11	0	8
Reclosers and sectionalisers	$85,731	0	2	0	0
Low voltage enclosures	$5,667	15	2	2	0
Ancillary distribution substation	$4,623	123	87	96	46
Ground mounted distribution transformers	$50,748	0	0	0	0
Pole mounted distribution transformers	$32,592	22	22	22	16
Protection	$20,633	42	0	0	6
DC systems	$74,086	3	4	2	4
Remote terminal units	$111,729	0	0	1	2

Table 16: Proposed quantities of assets to be replaced or renewed, and total average cost of replacing those assets, during the CPP Period for the Queenstown pricing region

ASSET CATEGORY	TOTAL AVERAGE COST OF REPLACING THE ASSET	NUMBER OF ASSETS FORECAST TO BE REPLACED OR RENEWED			
		RY23	RY24	RY25	RY26
Poles	$12,670	207	122	90	50
Crossarms	$2,927	0	236	50	97
Subtransmission conductors	$284,217	0.600 km	0.000 km	0.083 km	2.395 km
Distribution conductors	$154,884	0.000 km	0.095 km	0.472 km	8.078 km
Low voltage conductors	$131,275	0.000 km	0.424 km	0.414 km	0.544 km
Subtransmission cables	$1,213,058	0.000 km	0.000 km	0.000 km	0.000 km
Distribution cables	$433,925	0.000 km	0.000 km	0.005 km	0.000 km

ASSET CATEGORY	TOTAL AVERAGE COST OF REPLACING THE ASSET	NUMBER OF ASSETS FORECAST TO BE REPLACED OR RENEWED			
		RY23	RY24	RY25	RY26
Low voltage cables	$146,739	0.000 km	0.000 km	0.012 km	0.000 km
Zone substations	$600,574	5	8	1	2
Power transformers	$1,578,931	0	0	1	0
Indoor switchgear	$139,935	0	6	0	0
Outdoor switchgear	$144,168	5	0	0	2
Ancillary zone substation equipment	$131,665	0	0	0	0
Buildings and equipment	$1,008,170	0	2	0	0
Ground mount switchgear	$83,945	2	0	4	0
Pole mounted fuses	$5,275	0	0	0	0
Pole mounted switches	$15,182	0	0	0	0
Reclosers and sectionalisers	$85,731	0	3	0	0
Low voltage enclosures	$5,667	0	2	2	0
Ancillary distribution substation	$4,623	20	15	13	5
Ground mounted distribution transformers	$50,748	0	0	0	0
Pole mounted distribution transformers	$32,592	0	1	1	5
Protection	$20,633	0	0	0	0
DC systems	$74,086	0	0	0	0
Remote terminal units	$111,729	0	1	2	1

A.3. VEGETATION PROGRAMME

Table 17: Proposed vegetation programme during the CPP period, for the Dunedin pricing region

NATURE OF WORK	RY23	RY24	RY25	RY26
Percentage of the network that Aurora plans to inspect	40%	39%	38%	40%
Percentage of the network that Aurora plans to fell, trim, remove or spray	34%	40%	38%	39%

Table 18: Proposed vegetation programme during the CPP period, for the Central Otago and Wānaka pricing region

NATURE OF WORK	RY23	RY24	RY25	RY26
Percentage of the network that Aurora plans to inspect	47%	43%	46%	47%
Percentage of the network that Aurora plans to fell, trim, remove or spray	46%	44%	44%	48%

Table 19: Proposed vegetation programme during the CPP period, for the Queenstown pricing region

NATURE OF WORK	RY23	RY24	RY25	RY26
Percentage of the network that Aurora plans to inspect	60%	59%	65%	60%
Percentage of the network that Aurora plans to fell, trim, remove or spray	53%	63%	63%	59%


Aurora
ENERGY