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Submitted via: Email to infrastructure.regulation@comcom.govt.nz

Submission on EDB DPP4 capex workshop

Introduction

1. Thank you for the opportunity to submit on the Submission questions raised during the Capex Framework Workshop.
2. The workshop covered
 - a. Setting capex allowances within a DPP, including use of 2023 AMP Review
 - b. Assessing capex allowances
 - c. Other factors which apply to a DPP capex framework (uncertainty, deliverability risk)
3. The workshop covered a lot of material. Participants were available to ask questions and interact with the Commission staff however an in-person approach may have been more interactive.

Summary Of Emerging Views/Topics from Commission

4. At the start of the workshop, and informed by the 2023 AMP review, the Commission staff emerging views were;
 - a. the review found overall comfort that non-exempt EDBs capex forecasting approaches, as explained in their AMPs, broadly aligns with good industry practice (GIP)
 - b. that the overall view of practice and key drivers for forecast step change in capex may be a consideration for how thresholds are set within the capex framework.
 - c. other findings within the report may inform the setting of capex allowances, or choices of metrics but are not proposed to be a specific component of the framework itself.
 - d. For investment drivers of traditional and emerging investment, higher shares of spend on emerging drivers are indicative of more uncertainty in expenditure forecasts
 - e. For asset replacement and renewal/reliability, safety and environment, the majority of renewal related capex continues to be due to traditional drivers¹, particularly asset health and age
 - f. For load related capex- consumer connections, system growth, general views were;
 - o load related capex requires granularity of assessment
 - o DPP4 context requires use of multiple metrics
 - o assessment will be undertaken before capital contributions
 - o there is still value in using past expenditure as a starting reference
 - o metrics will be used to establish groupings
 - o groupings will be used to establish different pathways in the capex framework
 - o being in a grouping may determine the level of further scrutiny
 - o large changes in capex intensity (capex:totex) indicate the likely need for scrutiny
 - o understanding the degree of integration between asset planning (for system growth and connections capex in particular) and use of system charges/connection charges would help better understand the efficiency of planned investments
 - o overarching metrics considered are proportionate change in expenditure (compared to historical) and proportion of forecast capex driven by emerging drivers

- g. For consumer connections, general views were;
 - there is potential for greater windfall gains where forecast and actual capex differ materially
 - consumer connection growth is the best metric however it is unlikely to be sufficient on its own
 - expenditure driven by emerging drivers² are likely subject to greater uncertainty and may warrant further scrutiny e.g., large differences in cost per new connection may be the metric to indicate scrutiny
- h. For system Growth, general views were;
 - there is potential for greater windfall gains where forecast and actual capex differ materially
 - maximum coincident peak demand growth is the best metric however unlikely to be sufficient on its own
 - expenditure driven by emerging drivers³ are likely subject to greater uncertainty and may warrant further scrutiny e.g., forecast system growth per forecast incremental maximum coincident peak demand growth may be the metric to indicate scrutiny
- i. Three reference period options were tabled;
 - Three years- Captures recent market challenges, emerging trends, and global events
 - Five years- Matches regulatory period
 - More than five years- Captures more than one regulatory cycle, and may provide more normalisation over lumpy capex profiles (noting Seven(7) years was used for DPP3)
- j. Several flexibility mechanisms (reopeners and LCC mechanisms) were discussed;
 - Reopener applications to contain better information or new evidence
 - Interpretation of unforeseeable and foreseeable was provided
 - Acknowledgement that the volume of reopeners may increase in DPP4 and need for Commission resourcing for this
 - A request for EDBs to engage early
 - Setting an expectation that compliance provisions may be introduced for the LCC mechanism
- k. Deliverability commentary;
 - Surfaced concerns about EDB deliverability given the sector and international context
 - Used expenditure on assets, and asset replacement and renewal capex, to indicate both volume and unit cost is at play for DPP4
 - Signalled that the AMP 2023 review did not provide assurance that EDBs have factored broader deliverability into forecasts
 - Deliverability will need to be considered alongside need, timing and cost when adjusting expenditure allowances to account for uncertainty
 - Annual delivery reports may be considered for DPP4 information disclosure requirements
- l. Other matters;
 - No explicit changes required for resilience
 - No explicit changes required for timing of investment
 - No change to use of capital goods price index (CGPI) for capex

Orion Summary Points

- 5. Orion submits that the timeframe given to consider alternative metrics following the workshop is too short especially to provide evidence for these. Consequently, we have been unable to engage fully with our internal stakeholders to provide a fulsome response.
- 6. We consider our expenditure forecast to be efficient and prudent based on the following factors:
 - a. We forecast using scenarios underpinned by stakeholder engagement and sensitivity analysis
 - b. When we engage with our customers, they prioritise expenditure on firstly resilience and then reliability, and this informs the focus of our expenditure
 - c. We forecast connection of customers based on a strong and reasonably consistent connection rate over recent years and in accordance with what our scenarios tell us
 - d. We have strong monitoring and inspection regimes, and our data is continuously improving to inform our decision making
 - e. We have an established condition-based risk management approach to our overhead asset fleet forecasting. Our data and analysis tells us that we have a significant period of replacement and renewal in the next decade. We prioritise what and where, and are consistent with forecasting to maintain reliability and resilience while balancing this with service provider workforce, and cost commiserate with the market environment

² Process heat, distributed energy resources, commercial electric vehicle charging, small gas conversions, electric vehicles- light transport

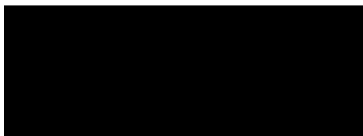
³ Process heat, distributed energy resources, commercial electric vehicle charging, small gas conversions, electric vehicles- light transport, distributed energy resources, utility generation scale >1MW, distribution system operations

- f. In respect of decarbonisation, while there is uncertainty about the exact timing of process heat conversions our engagement and the studies we have been part of (DETA/RETA) provide an evidenced and rationalised forecast of anticipated size and quantity of conversions in the AMP period
 - g. In respect of decarbonisation, while there is uncertainty about the exact pace of electrification of transportation, we have carried our detailed studies (EPEC) that inform us about which parts of our LV network we should prioritise for investment ahead of this change in demand and as we transition
 - h. We recognise the need to improve operational efficiency and our Integrated Asset Management (IAM) programme involves transforming our operating model, optimising our core workflows, and shifting to a digitised, data-driven organisation in pursuit of this.
- 7. We submit that the Commission should be targeted (only those EDBs and expenditures that required further scrutiny) and non-prescriptive (in terms of form and medium) if it were to require annual delivery reports.
 - 8. Despite the challenging context coming into DPP4, Orion is confident in its ability, as we have previously demonstrated, even in trying times, to deliver the programme of work signalled along with the service providers we work closely with.
 - 9. We answer the specific questions from the Commission in the attached Annexure A.

Concluding Remarks

- 10. Thank you for the opportunity to provide feedback. We do not consider any part of this feedback is confidential.
- 11. If you have any questions or queries or aspects of the submission which you would like to discuss, please contact us on 03 363 9898.

Yours sincerely



Dayle Parris

Head of Regulatory and Commercial

Annexure A- Orion New Zealand Limited

Session 1: Setting capex allowances

In your view how could the “NZ EDB 2023 AMP Review” report be taken into account within our capex framework?

1. AMP 2023 Review, Capex Dashboard

The capex aspect of the expenditure dashboard provided for each EDB in the 2023 AMP review report is useful. It highlights the capex categories that are most material and have the greatest change over time. This can guide where to focus attention in the Commission’s capex assessment process. The Commission has identified this and concentrated on system growth, consumer connections and asset replacement and renewal in its capex framework workshop. We agree with this approach.

2. Traditional and Emerging Drivers

The Commission has also used the report to make a delineation between traditional and emerging drivers of expenditure. **We do not agree that resilience should be categorised as an emerging driver.** Orion and many other EDBs have a long history of forecasting expenditure for resilience. We agree that resilience is gaining a greater focus in recent times due to climate change, but then this also happens, often enough, post a major event such as the Canterbury Earthquakes or Cyclone Gabrielle. In all these cases, the key change is that the risk has increased, and this can drive additional targeted expenditure but does not mean this is now an emerging driver. Expenditure for pole replacement, under asset replacement and renewal, can be seen to follow a similar pattern as quantities of poles installed at similar times come up for renewal. This does not mean that pole replacement is no longer a traditional driver of expenditure.

We submit that resilience is a traditional driver and should be assessed accordingly in the Commission’s capex framework.

We note reopeners for resilience are now available which provides avenue for revenue reconsideration for emergent situations e.g., a Council planning change which initiates managed retreat.

We submit that emerging drivers have an element of changing customer choice or technology or relate to integration of the digital and physical network.

3. Over analysis of certainty and uncertainty is not appropriate for a low cost DPP

We submit that assessments of certainty or uncertainty are inherently subjective in themselves. Uncertainty is often considered as a lack of information that may introduce risks to the outcome and execution of a process. These can relate to timing, data quality, stakeholder feedback and commitment, environment, consenting and available government incentives. There is information asymmetry between EDBs and the Commission as EDBs have greater ability to seek all relevant sources of information and determine if expenditure should be forecast in the regulatory period or not. It is understandable that a broad non granular assessment approach was taken (low, medium, high) in the 2023 AMP review. Accordingly, we submit that we would not support this approach to be used as part of the capex framework assessment process because the deep dive required does not fit with a low cost DPP approach.

4. Good Industry Practice

It was useful that the 2023 AMP review provided guidance on good industry practice by Commission expenditure category. We submit that it would be beneficial for the Commission to provide this guidance in an accessible form such as a fact sheet and provide updates at the beginning of IM or DPP processes. This may assist with standardisation in the way AMP information disclosure requirements are articulated within AMPs. This could assist with capex assessment moving forward.

5. Situations of further scrutiny needed

We submit that should scrutiny need be established through the Commission’s adopted capex framework approach then it will be important to interact directly with the relevant EDB. The 2023 AMP review could provide a checklist means, using the GIP provided by the Commission’s consultant, to guide that conversation without going too deep given the low-cost nature of the DPP. For instance, for consumer connection and system growth capex demand forecast, were scenarios used in demand forecasting, was sensitivity applied, to what extent was the forecast top down versus bottom up, was any backcasting applied? EDBs will have refined their forecasts since the 2023 AMP and 53ZD requests.

Session 2: Assessing capex forecasts

Metrics for assessing system growth, consumer connections, and renewal-related expenditure (slides 28-51)

Are the proposed metrics (individually and/or in combination) useful for identifying EDBs where additional scrutiny may be warranted?

Are there other metrics we should consider? Please explain your reasons and provide evidence to support your proposal.

6. Proposed Metrics

Yes, we agree the metrics identified are useful.

7. Other Metrics and evidence

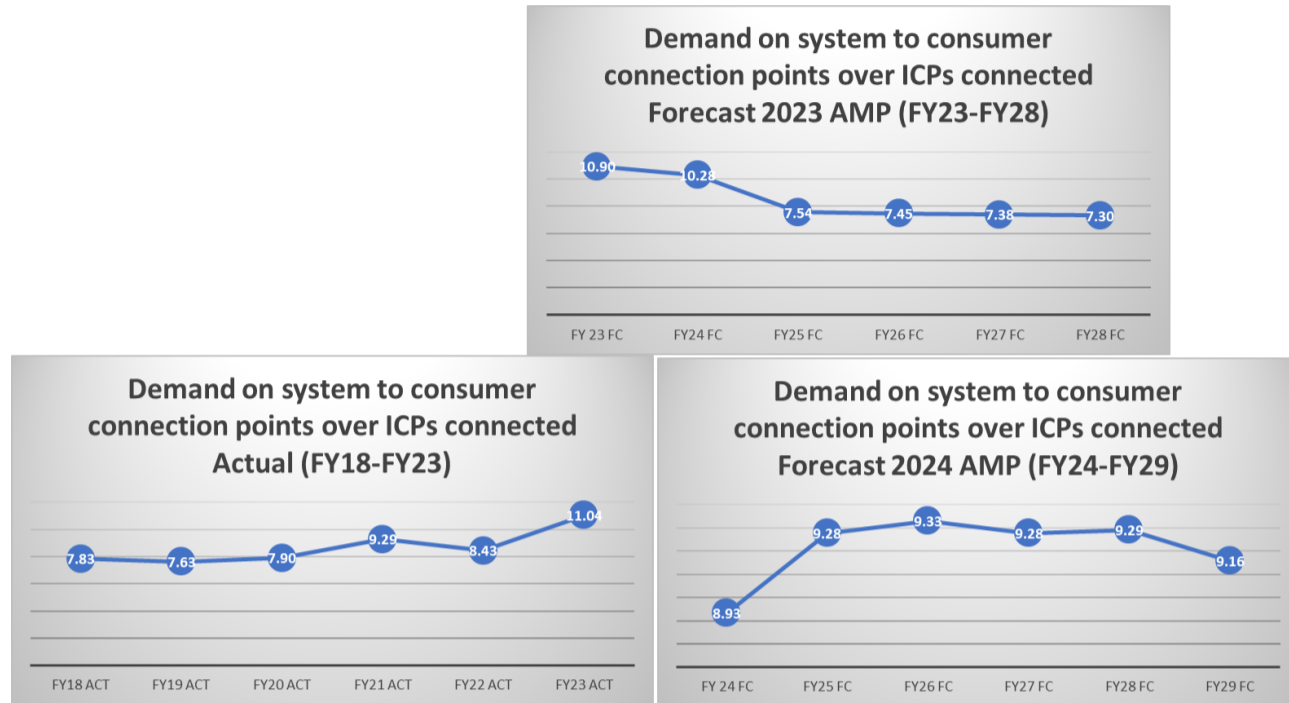
The short time provided to assess other metrics and provide evidence limits our response ability.

Leverage existing ID information: The Commission has substantial ID information it should leverage in its consideration of metrics for assessing capex that could be used as secondary ‘gates’. For instance, Schedule 12a Report on asset condition provides detailed level information *on % of asset to be replaced in next 5 years by asset category.*

Scrutiny with pragmatism: We submit that a consideration could be to have EDBs who are more susceptible to lumpy capex investment due to the scale and size of the EDB, to identify those particular projects to be carved out from the threshold test and have light touch scrutiny applied e.g., a substation or larger commercial and industrial customer not seen before. Schedule 12b Report on forecast capacity in AMPs provides detailed zone substation level information on which constraints are forecast to attract expenditure- columns labelled *Installed Firm Capacity Constraint +5 years (cause) and Explanation.*

Consider growing size of connections: We submit that a changing dynamic of consumer connection is the increasing size of connections during the transition period. While connection growth appears to be a good metric, is there also a need to consider to what extent the average capacity being connected will also grow impacting system growth capex such as in the case of process heat connections? The diagram below shows Orion demand on system to consumer connection points over ICP connected per year using information disclosure data from Schedule 9e and 12c. In general, Orion forecasts increasing in size of demand on system per ICP moving into DPP4. This can also be used to assess to what extent forecasts are higher or lower than what transpires from customer activity (see FY23 Actual versus Forecast).

Table 1 Tables and Charts of demand on system per ICP connected, shows supporting tables and charts as evidence that capex expenditure may grow because of increased demand per ICP over DPP4.



Source	Actual (FY18-FY23) SCHEDULE 9e: REPORT ON NETWORK DEMAND					
	FY18 Act	FY19 Act	FY20 Act	FY21 Act	FY22 Act	FY23 Act
Number of ICPs connected in year by consumer type (Row 17)	624	582	606	625	713	655
Demand on system for supply to consumers' connection points (Row30)	4885	4440	4786	5807	6012	7233
Demand on system per ICP connected	7.83	7.63	7.90	9.29	8.43	11.04

Source	Forecast 2023 AMP Schedule 12c REPORT ON FORECAST NETWORK DEMAND					
	FY 23 FC	FY24 FC	FY25 FC	FY26 FC	FY27 FC	FY28 FC
Number of ICPs connected in year by consumer type (Row 17)	660	680	696	711	724	740
Demand on system for supply to consumers' connection points (row 32)	7,195	6,990	5,245	5,295	5,340	5,400
Demand on system per ICP connected	10.90	10.28	7.54	7.45	7.38	7.30

Source	Forecast 2024 AMP Schedule 12c REPORT ON FORECAST NETWORK DEMAND					
	FY 24 FC	FY25 FC	FY26 FC	FY27 FC	FY28 FC	FY29 FC
Number of ICPs connected in year by consumer type (Row 17)	703	691	701	720	734	760
Demand on system for supply to consumers' connection points (row 32)	6280	6410	6540	6680	6820	6960
Demand on system per ICP connected	8.93	9.28	9.33	9.28	9.29	9.16

Table 1 Tables and Charts of demand on system per ICP connected

Asset Replacement and Renewal- use \$/pole to determine need for scrutiny

The Commission has identified that both unit cost and quantity of poles are a factor across all EDB's forecasts. We submit that across EDBs the quantity of poles is being held down in acknowledgement of the significant uplift in unit cost from inflation and supply chain costs. We submit that the Commission should request through informal or formal (53ZD) information on pole quantities for each year of the EDB's AMP. A simple \$/pole metric could then be used to assess asset replacement and renewal, and reliability, safety and environment expenditure to determine where scrutiny may be required.

Session 2: Assessing capex forecasts

System growth – written responses only (slides 44-51)

Where an EDBs capex intensity is expected to change significantly (e.g., 5% or more than historical); please provide indication where your 2023 AMP or s53ZD response explains the overall expected **change in expenditure mix** and the extent to which you have assessed the **efficiency** of this change (given the emerging scope for non-network/non-traditional solutions).

Alternatively, please state whether you are expecting to provide an explanation as part of your 2024 AMP.

How could we assess that forecast expenditure has appropriately considered **impacts** that could be achieved **through distribution pricing** (in the context of a low-cost DPP)?

8. The Commission’s analysis shows Orion’s capex intensity is expected to change by 7% compared to historical. We outline below some areas of emerging and traditional expenditure including an important ongoing resilience project contributing to this 7% capex intensity change.

We do not intend to repeat our AMP or s53ZD information here however we provide some points on areas of relevance although this is not exhaustive.

9. Consumer Connections- Process Heat

Efficiency- Our demand forecast is a realistic scenario using a number of information sources and retuning over time. Our forecasts have evolved across the 2023 AMP, 53ZD and 2024 AMP as our information and knowledge increased. In 2023, we had begun but not completed consultation with customers directly to understand their plans and thinking with respect to conversion of process heat, and scenarios/sensitivity from EECA, RETA and DETA reports were still being developed. For the 53ZD notice, we had consulted with customers directly to understand their plans and thinking with respect to conversion of process heat, and used scenarios/sensitivity based on EECA, RETA and DETA reports. We refined this further into the 2024 AMP by factoring in that some biomass, rather than electricity, will be economically available and used by Central Canterbury industry as it converts from coal fired boilers. This was not a significant adjustment because availability of cost-effective biomass in Canterbury is limited by the need to transport it from Southland or Tasman. We consider our forecast to be efficient because we have canvassed the market and used independent assessments to determine the forecast thereby removing sites unlikely to convert or that may convert to another fuel in the AMP period. Our approach to cost allocation will also be efficient in accordance with our revised connections and extensions methodology ensuring the right balance between socialisation and causer pays.

2023 AMP - our initial total forecast was higher than provided in the 53ZD, due to an error in calculations which we have corrected, from an increase in forecast load of 140MW.

53 ZD - total forecast \$73.843m (constant) accumulated to 2030 from an increase in forecast load of 80MW⁴.

2024 AMP - total forecast is \$67.315m (constant) for (FY26-FY30) from an increase in forecast load of 81MW by FY34. . The weighting of expenditure increases into FY29 and FY30.

2024 AMP Explanation- The forecast 81 MW includes potential large >5MW conversions (potentially two) and “Process heat customers switching to electricity who are less than 5MW in size. Orion has 30 of these customers of which EECA estimates 60MW will convert in this AMP planning period”⁵ **We expect that customers in the less than 5MW grouping will contribute approximately 65-75%⁶ of the cost through their connection contribution.** Orion has reviewed its connections and extensions methodology during 2023 and will introduce a cost revenue test for non-standard connections assessed on a case-by-case basis to provide assurance on connection contribution allocation between Orion and the customer.

The RETA- regional energy transition accelerator map provides a geographical representation of size and location of process heat (including if they are confirmed or unconfirmed at a point in time) in each region- [Regional Energy Transition Accelerator Map | EECA](#). This provides evidence that almost half of the 30 process heat conversions forecast are considered ‘confirmed’ by the study.

2024 AMP References to Process Heat

- Section 2.4.2.5 Process heat
 - “We appreciate that the Commission has a considerable and important task ahead of itself in the upcoming reset and we would encourage the Commission to look at solutions like – excluding all process heat customer conversions from regulated revenue or a low cost (a few thousand dollars not hundreds of thousands) fast and simple process for Orion’s regulated revenue to be adjusted for these customers. Under a beneficiary / causer pays pricing methodology approach – these customers are paying the cost of the conversion and given the relatively small size of some of the conversions (less than half a megawatt for some) – the process needs to be simple, quick, and low cost. For Orion’s revenue cap to not be able to be reset in this manner will either deter customers from conversion (e.g., the costs of the re-opener application process might be close to the cost of the physical work), or the costs are borne by Orion’s general rate base customers which is not equitable.” We note here that the Commission existing IM reopeners are not a good fit for the size and expected expenditure for each of the 30 identified process heat conversions.
- Section 6.4 Network development investment process including 6.4.1.2 Forecast sensitivity, Figure 6.4.5 Spread between scenarios FY34
- Figure 8.1.1 Network development capital expenditure high-level breakdown (real) – \$000
- Our scenario work under section 8.2 Network loading and forecast of the AMP,
 - Figure 8.2.1 Central scenario load growth by factor
 - Figure 8.2.2 Peak day demand profile by factor – FY34 Central Scenario
- Section 8.4.2.2 discusses process heat in respect of our Hororata GXP capacity and security programme

⁴ The forecast is 6.5MW for the first 4yrs, 15.7MW for the next three, then 2.8MW for the last three. This is based on averaging across the time bands where customers have indicated conversions may occur.

⁵ Orion 2024 AMP – Section 2.4.3 Navigating cost challenges in the regulatory setting

⁶ This is an estimate as each connection will be assessed on a case-by-case basis in accordance with our connections and extensions methodology available on our website

- Table 8.4.2 Southwest Christchurch and surrounding areas' growth and security projects (continued)-project 708 Shands Rd ZS 33kV to 66kV conversion FY30-32
- Section 8.4.2.4 Region B subtransmission capacity and security programme
- Section 8.4.2.5 Region A subtransmission capacity and security programme

10. System Growth- Electric Vehicles (light transport)

Efficiency- Our demand forecast is a realistic scenario using a number of information sources and sensitivity/retuning over time. Our forecasts have evolved across the 2023 AMP, 53ZD and 2024 AMP. In 2023, we used Ministry of Transport potential uptake figures as a baseline- assumes ~16% of the region's vehicle fleet will be electric in 10 years and 20% charging at peak times. For the 53ZD notice, we adjusted our 2023 forecast using 'scenario based' forecasting methodology, and **factored a lower proportion of EV charging at peaks times from new pricing incentives to be introduced from 1 April 2024 under our pricing roadmap- that is a zero TOU rate from 3am to 5am- thereby reducing the forecast.** We refined this further into the 2024 AMP after gaining better knowledge of our LV network which we believe has sufficient capacity to meet demand in the short to medium term. We understand there will be pockets of constraints that will manifest as housing intensification continues, electric vehicle uptake increases and the population in our region grows. Our strategy is to apply learnings from improved visibility of our LV network and implement new technology to unlock and utilise latent capacity in our LV network. Where all capacity is utilised, other approaches such as network reinforcement or use of flexible customer owned resources, such as batteries, will be used to meet customer expectations of service.

2023 AMP - our initial total forecast was higher than provided in our 53ZD.

53ZD - our total forecast \$45.735m (constant) accumulated to 2030 from an increase in forecast load of incremented at 5MW per annum and an accumulated total of 23MW by 2030.

2024 AMP - our total forecast \$41.691m (constant) from a non-coincidental load increase of 22.66MW (impact to peak network load is only 2.82MW) by 2030. The weighting of expenditure increases into FY29 and FY30.

2024 AMP References to electric vehicles or transportation

- 2.4.2.1 Population and residential growth- specifically "We also assume the proposed Mass Rapid Transit system will start impacting housing development and transport options from 2030, aligning with building growth projections from Christchurch City Council. While this has a small, estimated impact of around 5MW in peak load demand by FY34, higher growth is anticipated in later years."
- 2.4.2 External drivers of network investment Section 2.4.2.4 Transport
- 6.4.2.1 Low voltage constraints where we discuss our studies and analysis in conjunction with the EPECentre at the University of Canterbury and the network constraints we anticipate
- Section 6.4 Network development investment process including 6.4.1.2 Forecast sensitivity, Figure 6.4.5 Spread between scenarios FY34
- Our scenario work under section 8.2 Network loading and forecast of the AMP, Figure 8.2.1 Central scenario load growth by factor
- Our scenario work under section 8.2 Network loading and forecast of the AMP,
 - Figure 8.2.1 Central scenario load growth by factor
 - Figure 8.2.2 Peak day demand profile by factor – FY34 Central Scenario
- Section 8.4.2.4 Region B subtransmission capacity and security programme
- Section 8.4.2.5 Region A subtransmission capacity and security programme
- 8.4.4 400V LV programmes of work
- Table 8.4.9 400V LV monitoring-Project 884 LV monitoring programme

11. Non-Network Asset- Information Technology

Efficiency- Our forecast has identified a source of step change, from the need to replace legacy systems and improve operational efficiency. Our forecasts have evolved across the 2023 AMP, 53ZD and 2024 AMP. In 2023, we had identified we needed urgent upgrades to our legacy systems to ensure they are future-proof and capable of supporting advanced analytics, but we had yet to complete procurement processes. This includes the integrated asset management project (IAM), a broader fixed asset initiative, and platform integration. At this time, we were still in the early procurement process for some systems as we plan to partner with vendors and expert third parties to augment in-house Orion information technology services. For the 53ZD notice and 2024 AMP, we have a more accurate understanding of the potential costs for upgrading our legacy systems from partnering with vendors and expert third parties. This is an efficient investment given the benefits in operational efficiency this will yield for customers.

2023 AMP - our initial total forecast was \$66.337m (FY23-FY28) higher than provided in our 53ZD.

53ZD - our total forecast was \$53.971m (constant) (FY24-FY29).

2024 AMP - our total forecast is \$53.971 (constant) (FY24-FY29).

2024 AMP References to information technology

- Section 4.5 Information technology strategy
- Section 5. Capital expenditure, specifically "Data and digitisation – our Integrated Asset Management (IAM) programme is a key focus. It involves transforming our operating model, optimising our core workflows, and shifting to a digitised, data-driven organisation. This includes the upgrade, development, replacement, introduction and integration of core platforms and services. By digitising our asset data, we improve our capacity to use condition and inspection results for more timely, better-informed, smart investment decisions."

12. Resilience

Efficiency- The risk of earthquake remains high, and customers prioritise resilience spend above other drivers, and we retune forecasts based on learnings from implementation over time. Our forecasts have evolved across the 2023 AMP, 53ZD and 2024 AMP. In 2023, we continue to address a known key operational risk (section 3.7.6.5 of 2023 AMP) from earthquake by replacement of our 66kV oil filled cables. At this time, we have 40km of oil filled 66kV underground cables left in the urban area and have a project to replace these with more easily repaired cables in the event of a major earthquake. More detail can be found in section 7.4.1.1 Region A 66kV subtransmission resilience of the 2023 AMP. For the 53ZD notice, we refined the forecast given experience from prior year 66kV oil filled cable installation and continue to address this known risk from earthquake. This is an efficient forecast because it delivers on our customers top priority of resilience and addresses a known risk from earthquake by replacement of our 66kV oil filled cables. Resilience expenditure also features in addressing security of supply and in our asset replacement and renewal work for 11kV and 400V overhead lines.

2023 AMP - our total forecast is significantly lower than for our 2024 AMP due to supply chain and inflation effects into 2024.

53ZD - our total forecast for reliability, safety and resilience was \$122.360m (constant) of which \$98.996m (constant) (FY24-FY29) is for our 66kV oil filled cable project in conjunction with consequential substation and conversion work.

2024 AMP our total forecast for reliability, safety and resilience forecast is \$98.996m (constant) (to FY30) of which \$67.665m (constant) relates to just the major 66kV oil filled cable project.

2024 AMP References to information technology

- Table 1.1 Capital replacement programmes and their Asset Management Objectives for F25 to FY34
- Table 1.3 Top 10 network development base programmes and their Asset Management Objectives for FY25 to FY 34
- Section 2.4.2.9 Climate change
- Section 2.4.3 Navigating cost challenges in the regulatory setting- in particular “The Alpine Fault 8 resilience investments that Orion has been undertaking since FY20 to improve the resilience of Orion’s network to earthquakes”
- Section 3.5 What our customers have told us, section 3.5.3 Safe, reliable, resilient network-specifically “Customers tell us that focusing on providing a resilient and reliable service should be fundamental for Orion. They want us to continue to invest in increasing the resilience of our network and “Our customers tell us Orion’s investment in resilience represents good value for them. Customers have low tolerance for long outages and want Orion to invest in resilience with this in mind.”
- Section 3.5 What our customers have told us, 3.5.7 Investment priorities- specifically “For both urban and rural customers the clear priority, now and for the future, was investment in the resilience of the network”
- Section 5 Capital Expenditure- specifically “Asset replacement and renewal – over the next 10 years, our focus remains on replacing legacy assets installed during the 1960s to 1980s, ensuring the network’s ongoing safety and reliability. We will also enhance network resilience by targeting poles in high wind zones which pose higher risk due to their design and construction not withstanding harsher environmental conditions because of climate change.”
- Section 5.8 Our key operational risks
- Section 5.9 Summary of our top 10 risks and mitigation strategies
- Section 5.10 Our resilience to business interruption
- Section 7.5 Overhead lines – distribution 11kV, Figure 7.5.8 11kV pole replacement plan
- Figure 7.6.6 Low voltage pole replacement plan, 7.6 Overhead lines – distribution 400V
- Section 7.8 Underground cables – subtransmission, 7.8.2 Asset description
- Section 8.4.1.1 Region A 66kV subtransmission resilience programme
- Figure 8.4.2: Proposed Region A 66kV subtransmission resilience programme projects
- Table 8.4.1 Region A 66kV subtransmission resilience projects

Session 2: Assessing capex forecasts

Application of additional tests (slides 53-57)

Some EDBs are expected to be identified (according to the proposed metrics or alternative metrics) to belong to a 'further scrutiny grouping', for one or several expenditure categories. Please identify effective means of providing additional assurance (consistent with the low-cost nature of a DPP) that the forecast levels of investments are in the long-term interest of consumers:

-Additional information requirements and/or tests that could be applied

-How investments that are particularly uncertain could be identified (on the basis that they may be better addressed through reopeners)

Historical reference periods are likely required to assess the scale of change. What reference period should the capex framework adopt for DPP4 and why?

13. Approach to scrutiny for those above metric thresholds in a low cost DPP

Orion believe effective means to provide additional assurance where an EDB's expenditure exceeds the threshold metric assessment are:

- Discussion with the EDB about areas for scrutiny
- Apply good industry practice-based questioning (depending on the category):
 - What is the broad context for the expenditure in this region?
 - Were scenarios used in demand forecasting?
 - Was sensitivity analysis applied?
 - Is there anything specific about you region that drives your forecasting (demand or expenditure)
 - To what extent is the forecast or expenditure top down or bottom up?
 - Was any backcasting applied to forecasting?
 - To what extent has customer engagement informed your decisions?

14. Capex historical reference period

The Commission has proposed the following potential options for reference periods for DPP4;

- 3 years- captures recent market challenges, emerging trends, and global events
- 5 years- reflects a regulatory period
- More than 5 years- captures more than one regulatory cycle and may provide more normalised view of the lumpiness of capex profiles. (7 years was used for DPP3)

We submit that 3 years is an appropriate reference period for DPP4. Our reasoning is:

- 3 years- recognises we are in an energy transition (non-status quo environment) such that more recent activities better reflect costs and environmental context.
- 5 years- while reflecting a regulatory period it extends back beyond the events that are shaping our current forecasts e.g., Covid, Inflation, Supply Chain costs, Net zero and climate change commitments
- More than 5 years- capex lumpiness can be addressed by further scrutiny following metric tests. EDBs should be able to clearly identify these expenditures e.g., new substations, special programmes of work etc. During an energy transition capturing more than one regulatory cycle is less important than during a steadier period (status quo environment).

Session 3: Other Factors

Large connection contracts (slide 65)

Please identify whether LCC eligible connection expenditure is listed in AMP 2023 and/or information provided in response to the s53ZD notice (issued November 2023) and the location of this information within the documentation provided.

If you haven't identified LCC eligible connection expenditure, please comment on the feasibility of creating a list of connection projects and programmes that would potentially meet the definition of an LCC in AMP 2024

If the information is readily available, please provide the listing.

15. LCC eligible connection expenditure forecast in Orion AMPs or 53ZD notice

Orion has forecast no load connections that are potential LCC eligible connection expenditure in its AMPs and 53ZD notice.

Orion has forecast utility scale exporting connections that are potential LCC eligible connections expenditure in its AMPs and 53ZD notice. See System Growth/Utility Generation Scale >1MW in the 53ZD information provided.

16. Orion listing of LCC eligible connection expenditure

- We are unable to list utility scale exporting connections here due to commercial sensitivity. We are happy to discuss this directly with the Commission.
- We note that utility scale exporting connections expenditure will be primarily funded by the relevant customers
- We have no load connections to list.

Session 3: Other Factors

Additional reporting requirements (slide 74)

What are your views regarding our proposal to place additional reporting requirements on EDBs with significant increases in work programmes?

- what alternative proposals can you suggest that would achieve a similar outcome of enabling interested stakeholders to assess how well EDBs are delivering their significantly increased work programme?

What are the challenges you perceive in providing additional reporting?

-are there any implementation or workability concerns that we should be aware of?

-what information do you currently produce for internal reporting purposes that could be used to achieve similar outcomes?

17. Views on additional reporting requirements for significant increases in work programmes

Firstly, we submit that DPP is a low-cost regime, and this should be reflected in the reporting requirements, if any. We submit that any additional reporting needs to be very targeted as the level of information disclosure required of EDBs is a significant cost and resource burden especially for smaller EDBs. The Commission's assessment process identifies those that require further scrutiny and any expenditure granted through this process may inform areas for further targeted reporting by those EDBs. However, we question whether this is appropriate under a low cost DPP especially given that EDBs have discretion within the allowable revenue as to how it is spent once granted e.g., we can flex our expenditure relevant to our annual contexts.

18. Alternative proposals

We submit that the Commission should be aware of existing and other ways EDBs provide information beyond information disclosure.

- Orion has established community updates⁷ that are delivered via local papers and are electronically on our website.
- Our innovation strategy and project information⁸ (already an ID requirement) provides other information about our activities and investments.
- Orion Have Your Say provides information on projects as they progress.⁹
- The Commission could request annual updates to the community but not be prescriptive about the medium or form.
- Through social media

19. Challenges in providing additional reporting

We submit that a challenge is the risk of regulatory prescriptiveness that inhibits innovation and creativity in the form and medium EDBs use to update and communicate with their customers about their activities. For instance, we have increased our social media presence in recent years, communicating and informing customers in ways that resonates with them.¹⁰ We submit that there is a risk of inefficient duplication if EDBs are already communicating with customers in the ways described here and described in point 18 and 20.

⁷ <https://www.oriongroup.co.nz/corporate/latest-news/orion-community-update-dec23/> and <https://www.oriongroup.co.nz/corporate/our-major-projects/>

⁸ <https://www.oriongroup.co.nz/corporate/innovation/>

⁹ <https://www.haveyoursay.oriongroup.co.nz/>

¹⁰ <https://www.facebook.com/orionnewzealand/>

20. Internal reporting that could be used for a similar outcome

As a business we identify key projects that form part of our Group business plan and KPIs and these are internally reported on through monthly reporting to board outside board meetings. Examples over FY24 include Milton to Bromley 66kV oil filled cable program, Installation of LV Monitors, Norwood GXP and associated 66kV lines, and the Integrated Asset Management programme.

Session 3: Other Factors

Deliverability (slides 68-73)

We understand that forecast expenditure is driven by project size and scope, volume of work and cost of the work programme. To the extent that the increase in the forecast work programme is due to cost, please explain the variation in cost increases across capex categories beyond CGPI. What support information/analysis can you provide?

Apart from having considered the challenges of delivering your work programme at an individual EDB level, what approach and evidence do you have that you have also taken into account potential sector-wide deliverability constraints?

What are your views on our proposal to consider deliverability as part of uncertainty regarding EDB expenditure, alongside need, timing and cost?

-what alternatives do you propose?

-are there particular categories of capital expenditure which are more likely to be exposed to potential deliverability constraints?

21. Variation in cost increases across capex categories beyond CGPI

Given the time provided for the submission, following the capex workshop, we have been unable to provide increase information specifically with reference to CGPI. Historically, we have used a combination of Producers Price Index (PPI) and Labour Cost Index (LCI) forecasts to forecast the nominal dollar spend in each of the ten years of our AMPs. However, it has become increasingly apparent that cost increases for common equipment needed for distribution build sourced from offshore have for several years been significantly greater than general inflation indicators. *Table 2 Annual average change in equipment cost*, from analysis by our network delivery cost engineer, shows average annual changes in cost of particular equipment items¹¹. This shows both variation year on year and significant uplifts.

Item	2023-2024	2022-2023	2021-2022	2020-2021
Poles - Softwood	9%	10.5%	17%	4.5%
Poles - Hardwood	25.6%	-9.6%	22.64%	11%
Transformers (All)	9.43%	7.1%	14.74%	13.8%
Conductor	3%	6.73%	47.64%	
Labour		6.27%	6.09%	2.46%
Temporary Traffic Management		13.21%	40.56%	

Table 2 Annual average change in equipment cost

Significant contributors for these material costs increases in the past few years were COVID-19 and supply chain issues in general, unfavourable changes in commodity prices and exchange rates, and greater demand world-wide from the electricity sector for materials and labour given the growing rate of decarbonisation and electrification. **Orion can take the Commission through some of this analysis where the Commission identifies the need for ‘further scrutiny’ of Orion.**

Regarding the future, ongoing decarbonization and electrification is likely to continue to contribute to a rise in materials prices. We foresee a global surge in demand for electrical materials and labour, creating sustained pressure on prices as demand exceeds supply^{12,13,14}. Given Orion is a relatively small player in the global electrical materials market, we lack the purchasing power to mitigate these rising costs. Consequently, we anticipate enduring materials and labour inflation in our local industry.

Consequently, in our 2024 AMP we have moved away from an assumption that our nominal costs will increase in line with general inflationary factors and have instead assumed our capital expenditure costs will increase at a greater rate. Details on the capital expenditure cost assumptions we are making in our 2024 AMP are shown below (this is a copy of Schedule 14a, Appendix F, in our 2024 AMP). Over the coming year, we will further strengthen our ability to forecast future costs pressures by engaging local and international economic experts to seek their opinions on how electrification is likely to impact resources and costs.

¹¹ We note that these annual cost increases can be influenced by procurement processes e.g., where a contract is in place for a period of time that has the affect of locking in prices.

¹² Infrastructure commission- infrastructure quarterly report October 2021 says “The infrastructure sector needs to prepare for ongoing supply chain and labour market issues, including factoring expected cost pressures into project and programme budgets. In the longer term, COVID-19 disruptions highlight the need to build resilience and redundancy into our infrastructure delivery system.”

¹³ International Energy Agency - Electricity Grids and Secure Energy Transitions Report, November 2023: “To meet national climate targets, grid investment needs to nearly double by 2030 to over USD 600 billion per year after over a decade of stagnation at the global level, with emphasis on digitalising and modernising distribution grids. Concerningly, emerging and developing economies, excluding China, have seen a decline in grid investment in recent years, despite robust electricity demand growth and energy access needs. Advanced economies have seen steady growth in grid investment, but the pace needs to step up to enable rapid clean energy transitions. Investment continues to rise in all regions beyond 2030.” “We find that there are already signs today that grids are becoming a bottleneck to clean energy transitions and analyse the risks we face if grid development and reform do not advance fast enough.” “There is also a significant need for skilled professionals across the entire supply chain,” “Supply chains for grids are already showing some tightness, which could pose risks to grid development in the coming years.”

¹⁴ National Grid UK – Delivering for 2035, May 2023: “Decarbonising the power system by 2035 requires a fundamental step-change in the scale and pace of delivering new electricity network infrastructure.” “skills and supply chain capacity all present challenges to delivering at the pace and scale required.”

Our constant dollar forecast figures are the costs we would face, in each of the ten years of the AMP, if there was no change in relative purchasing power witnessed from mid-year FY24 for the next ten years.

Our nominal dollar forecast figures are the costs we would face, in each of the ten years of the AMP, if we include all types of inflation (be it general or industry specific) witnessed from mid-year FY24 for the next ten years.

Our real dollar forecast figures are the costs we would face, in each of the ten years of the AMP, if we include only sector specific inflation that is above, or below general inflation witnessed from mid-year FY24 for the next ten years.

In escalating our constant dollar forecast figures, as at mid-year FY24, to nominal dollar forecast figures we have:

- split our forecast capital expenditure into network capital expenditure and non-network capital expenditure
- forecast an escalation index for network capital expenditure aligning with our expectation of the annual cost escalation we will have in our sector over the next decade for network capital expenditure - this will be persistently above general economy wide inflation as increased electrification occurs due to decarbonisation.
- forecast an escalation index for non-network capital expenditure that is based on appropriate general inflation forecasts received from PwC over the ten-year AMP period.
- Applied the forecast escalation indices for the ten-year forecast period.

In deescalating our nominal dollar forecast figures to real dollar forecast figures, as at mid-year FY24, we have removed our estimate, based on forecasts received from PwC, of general inflation escalation over the ten-year period.

The escalators we have used in our capital expenditure forecasts are set out in *Table 3 Capital expenditure forecast escalators applied by Orion*:

	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33	FY34
Network capital expenditure										
Constant FY24 \$ to Real FY24 \$	1.045	1.096	1.140	1.172	1.199	1.226	1.255	1.283	1.313	1.343
Real FY24 \$ to Nominal \$	1.041	1.064	1.085	1.107	1.129	1.152	1.175	1.199	1.223	1.248
Non-network capital expenditure										
Constant FY24 \$ to Real FY24 \$	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Real FY24 \$ to Nominal \$	1.000	1.054	1.073	1.093	1.113	1.134	1.155	1.176	1.197	1.210

Table 3 Capital expenditure forecast escalators applied by Orion

Other practical examples that increase EDB costs include;

- Evolving and maturing work practices of service providers around safety can add cost e.g., a service provider who identifies that a truck resource is now unsuited to working on sloping hills and elects for an alternative method.
- The cost of doing business in the road keeps increasing e.g., for some jobs the cost of traffic management can be greater than the cost of the job itself.
- Changing work patterns of customers (working from home) e.g., customer requirements to accommodate their needs around planned outages is increasing. More expectation to install generators and limit outage times increases overall time on the same job- splitting jobs across days and installing generators and fuel cost.
- Local government agencies (NZTA, ECAN, NZTA, Kiwirail) create delays due to lack of resources to management construction related activity.

Increases in our forecast capital expenditure over this AMP period are largely due to growth works and new customer connections. Connections investments are predominantly third-party driven and are delivered by contractors directly procured by the connecting parties. Non-network investments are procured and delivered separately from our network investments and are managed directly with suppliers. Our renewal and our reliability, safety and environment programmes are broadly in-line with recently delivered volumes. Overall, based on our recent successful delivery of our 2023 capital investment programmes we are confident our governance and planning processes will ensure we continue to deliver our works programme in a safe and cost-effective manner.

22. Deliverability considerations beyond individual EDB

We submit that uncertainty in deliverability is a matter for EDBs to manage and shouldn't be considered in an uncertainty assessment process when setting revenue allowances. Orion have demonstrated deliverability in other uncertain times including post the Canterbury earthquakes, significant snow, and windstorms and during the Covid pandemic. Deliverability is an ongoing business risk we are agile to managing and we are comfortable that we have processes and methods to address this.

We direct the Commission to Section 9 Deliverability of our 2024 AMP for further details.

The particular category of expenditure which are more likely to be exposed to potential deliverability constraints include projects that rely on procurement of long lead time large capital items from offshore e.g., transformers, cable, switchgear. These are currently subject to shipping delays and escalating cost. We can manage around these to some extent by issuing other work not dependent on large capital items when delay in their delivery occurs.

We have shared with all current service providers forecast spend areas and how this might translate to their work and for them to consider in work planning and training. These service providers already work beyond Orion's geographical area. Several South Island EDBs are collaborating on standard design principles to enable better transfer of resource across EDBs. Our related party service provider is holding pole stocks for wider EDB use as well.