

VECTOR SUBMISSION TO DEFAULT PRICE QUALITY PATH ISSUES PAPER

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Key issues for DPP3

- The purpose of Part IV of the Commerce Act is to promote the long term interests of consumers. It is important that as the boundaries between industry participants (both traditional and new) blur that the Commission is focused on what is in the long term interest of consumers. This especially given the overriding concerns in the sector are the final price customers are paying, resilience of networks and developing capability for new energy technologies.
- Auckland has unique construction/infrastructure and cost challenges that have no equivalent in New Zealand over the DPP3 timeframe. The bow-wave in development activity has no precedent and outstrips any historic “peak” in construction. This is all occurring in New Zealand’s least affordable region which Vector must operate within (as Auckland’s only EDB).
- DPP3 will also be significant in terms of consumer preferences and their adoption of emerging energy technologies and greater digitalisation – this is creating an additional uncertainty for network planning. The traditional roles of an EDB are changing. These new roles in turn require existing regulation to adapt as well as new supportive regulatory tools.
- The changing operating environment for EDBs also requires regulatory change. For example expectations for heightened health and safety requirements need to be recognised when establishing appropriate reliability benchmarks – there is less tolerance for safety to be compromised for staff, contractors and members of the community. The current tension between reliability metrics and safety needs to be resolved.

AUCKLAND IS ACCELERATING ITS BUILDING ACTIVITY DURING DPP3

- Auckland has an ever increasing bow-wave of infrastructure investment occurring in the 2020-2025 DPP3 period.
- Auckland’s construction activity contributed 36% of national construction in 2017 and this is projected to increase **to 41% of total national construction by 2023**.
- **Dwelling consents** are expected to significantly outstrip historic highs experienced at the turn of the millennium and will drive the volume of construction activity for the DPP3 period.
- **Figure 1** shows historical and forecast dwelling growth for Auckland up to 2023. The forecast for AKL is supported by major urban development bodies such as the Tamaki Development Authority with a mandate to build upwards of 7,500 state-owned dwellings and extraordinary powers to override town planning laws. The annual upward revisions to forecast dwelling growth is also unprecedented and driven by activity such as the Kiwibuild program.
- **Figure 2** showing the difference between the 2017 forecast and 2018 forecast national dwelling construction. The delta to the national figure is driven predominantly by changes to AKL dwelling forecasts.
- **Major developments** announced for Auckland in the second half of 2018 include **10,000** residential dwellings for Mt Roskill (Sept), **7,000** dwellings for Redhill and Whenuapai (Sept) and **10,000** for Mangare (July).

Figure 1: Auckland forecast dwelling growth (excludes recent govt announcements)

Figure 4-1-2 Dwelling units in Auckland, 1993 to 2023

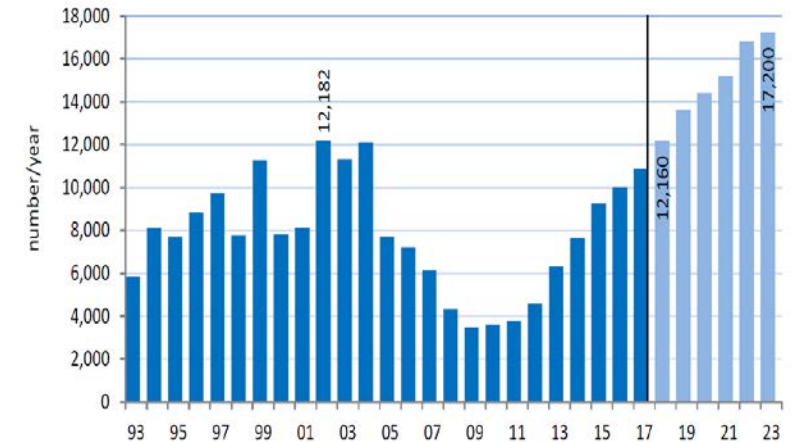
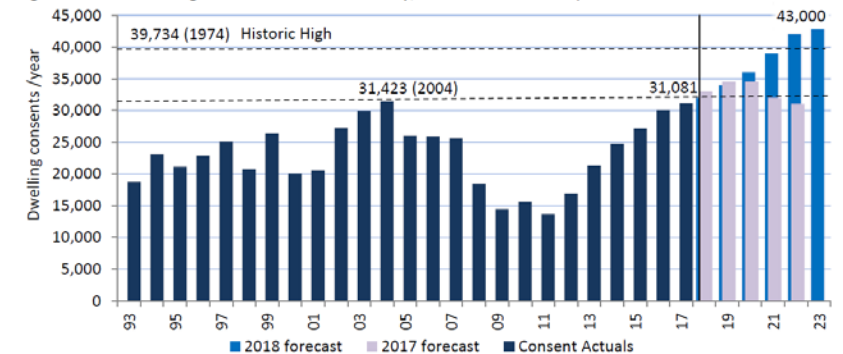


Figure 2: National dwelling forecast dwelling growth contrasting 2017 and 2018 forecasts

Figure 2-2 Dwelling units consented nationally, 2017 and 2018 comparison of forecasts



Source: BRANZ/Statistics New Zealand

AUCKLAND BUILD CONTINUED

- Building activity is not limited to residential construction with the value of **non-residential construction expected to reach \$3.5B** and stay above \$3B for the most of the DPP. The volume of growth in the Auckland market between 2018 and 2023 is equivalent to the total size of the Wellington non-residential construction market.
- **Figure 3** shows the annual forecast of construction work for Auckland, Wellington and Canterbury (all residential and non-residential). The rate of building activity for Auckland is a multiple of any of the other regions including the other major urban centres of Wellington and Canterbury.
- **Construction costs are escalating at a significant rate** – for 2017 RLB a specialist construction industry firm tracking tender prices for construction works found tender prices increased by 6% between 2016 and 2017. The growing costs for construction is creating pressures for common infrastructure inputs in Auckland.
- **Figure 4** shows the changes to the Tender Price Index (TPI) over four calendar years. The 2017 increase in construction costs per the TPI was over four times the CPI for the year.
- The building boom is also creating skill pressures for infrastructure industries and draining resources to meet connections and increasing demands for common infrastructure inputs.

Figure 3: Annual forecast of construction work for Auckland, Wellington and Christchurch for 2018 to 2023

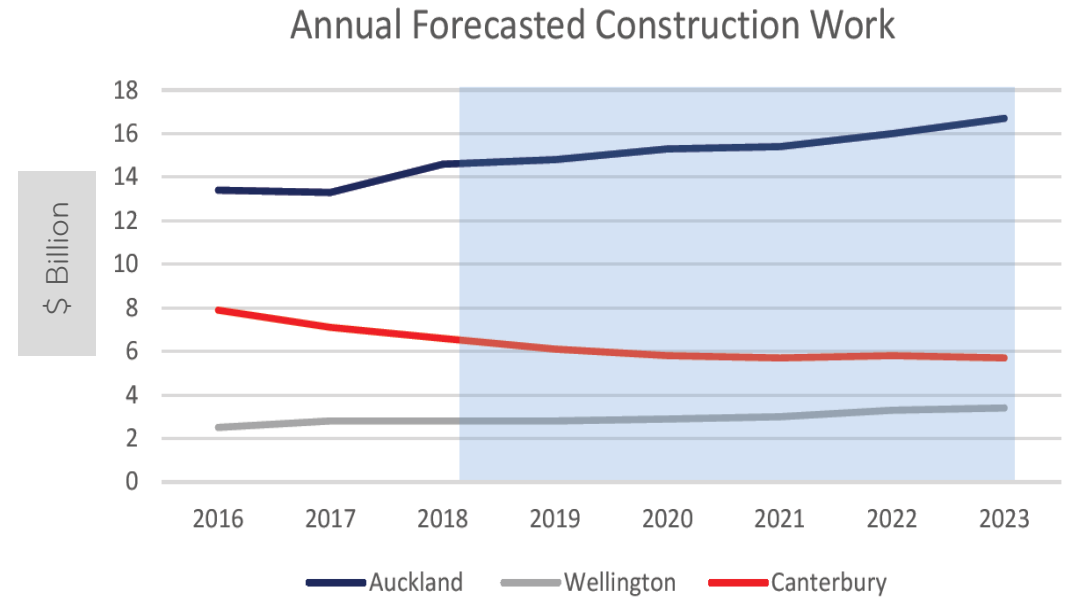
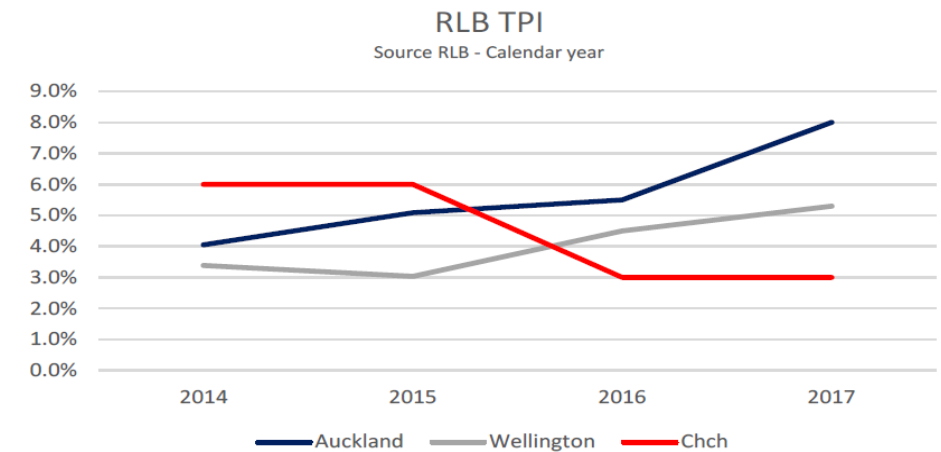


Figure 4: RLB construction tender price index tracker for Auckland, Wellington and Christchurch



AUCKLAND INFRASTRUCTURE CONTINUED

- Auckland development is not limited to new building and dwelling construction – transport development is also expected to have a significant impact during DPP3. **Figure 5** provides an indicative view of the proposed Light Rail Transit (LRT).
- The LRT is expected to commence coincidental with DPP3 and to require the relocation of up to 1500 electricity cables across key commercial precincts such as Queen St and Dominion Rd all anticipated to occur in DPP3.
- We anticipate asset relocations could be up to \$80M in addition to annual business as usual asset relocations over five years. The relocations will involve moving network critical assets such as 110kV, 33kV and 22kV circuits. The complicated environment of the LRT corridor will also limit maintenance activity for adjacent assets and so will need to be coupled with new design – a complication not presented with other recent projects such as the AKL City Loop or Waterview Tunnel.
- Most importantly, the rapid rate of construction activity is creating a new uncertainty for load growth and connections forecasting. Each new announcement of expedited building activity is requiring constant revisions to Vector's connections and system growth forecasts. The challenges for planning are further compounded by technology adoption with a wider range of long-term load forecasts.

Figure 5: Proposed light rail transit routes for Auckland



OPERATING IN THE AUCKLAND REGION IS MORE COSTLY AND THE “WEDGE” IS GROWING

- It is well established that Auckland has a cost premium relative to the rest of the country. However, the cost premium for being an Auckland only business has grown during DPP2. Wage inflation in Auckland has outstripped the national labour cost index.
- Household living costs for Auckland are also higher than the rest of the country driven by more household income being dedicated to living pressures such as housing and transport (compounded by the regional fuel tax for Auckland). **Figure 6** shows the compound annual growth rate for household expenditure over the period of 2006-2017. This chart will not include the effects of the regional fuel tax which was introduced in 2018.
- Congestion cost for the Auckland region also outstrip the costs for the rest of the country. Congestion is a cost to operations – indeed this is reflected for Vector in the ability to effectively respond to outage incidents for our network and reflected in SAIDI statistics.
- NZIER estimate the impact of congestion in Auckland is costing approximately 1-2% of regional GDP. **Figure 7** shows the relative change in travel times contrasting calendar year 2012 with 2016 using TomTom traffic data for different cities in New Zealand.

Figure 6: The compound annual growth rate in household expenditure from 2006-2017

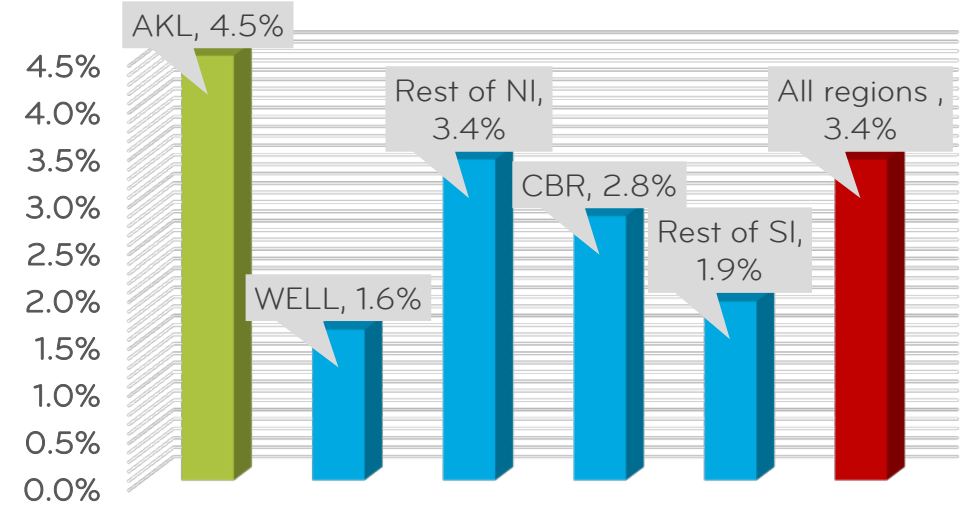
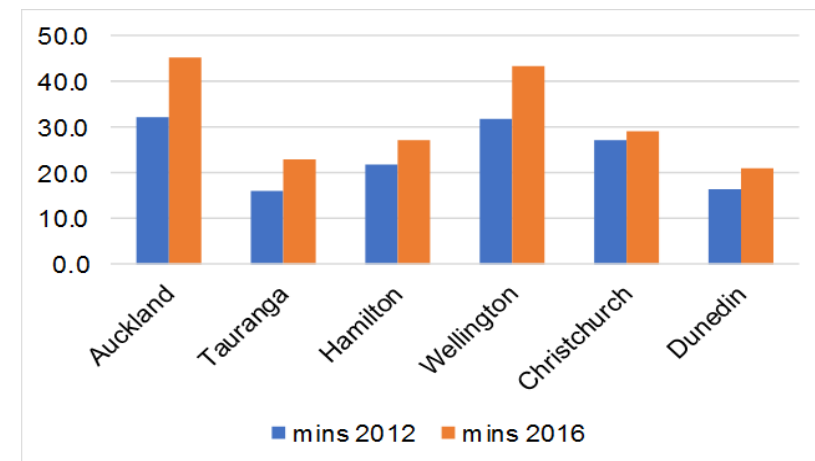


Figure 7: Average travel journey differences for metropolitan regions contrasting minutes taken in 2012 versus 2016



SUPPORTING THE AUCKLAND BUILD WHEN THE FUTURE IS UNCERTAIN

- Over the last five years Vector has spent a total of \$891 million supporting the Auckland region.
- The investment programme will continue to accelerate and we are forecasting to invest over \$2.8 billion over the next 10 years
- This is all occurring at a time when the longer term view of load and consumption is much more uncertain. **Figure 8** provides Vector's modelling of different energy usage for different energy scenarios for technology adoption and consumption impacts in our scenario modelling over a 30 year horizon. **Figure 9** models network load over the same horizon.
- The spread and variation in the load and consumption forecasts between the Pop, Rock, Symphony, Indie and Disco scenarios illustrates the uncertainty with investment recovery given the different prices expected to pay under each scenario.
- This uncertainty is compounded by the back-ending of the asset recovery in revenues for EDBs. We believe the same circumstances that were necessary to provide Transpower forward recovery of its assets are relevant to Vector and support special levers to ensure Vector can confidently invest to support Auckland's build with confidence of ⁷ investment recovery.

Figure 8: Vector scenario forecasting of total consumption over 30 years

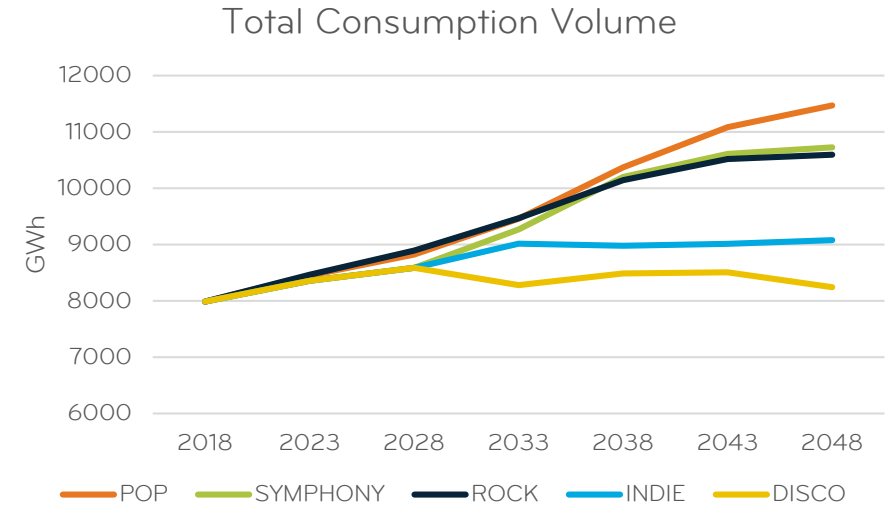
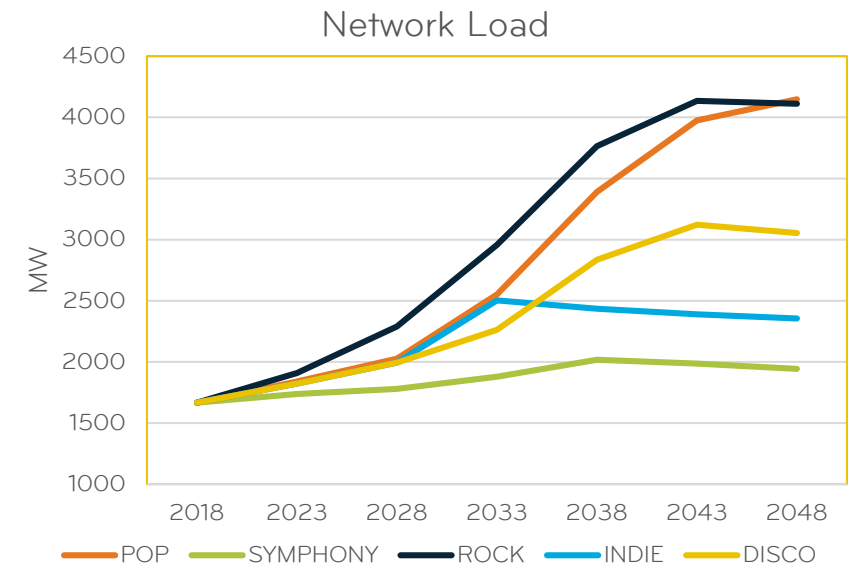


Figure 9: Vector scenario forecasting of Network Load over 30 years



REGULATION NEEDS TO RECOGNISE CHANGING CUSTOMER EXPECTATIONS AND INCREASING UNCERTAINTY

- The energy sector is on the cusp of significant change driven by the digitalisation of energy and the increasing affordability of energy technologies.
- Customers are expecting more from their electricity networks which will require network companies to adopt new roles and deliver to the new service levels expected.
- FTI-CL in an expert report for Vector note customer expectations are being shaped by the way firms can deliver choice and personalisation, improved customer experience and innovation. These are defined further in **figure 10**.
- The digitalisation of sectors has allowed firms that have successfully implemented these strategies to succeed. **Figure 11** provides examples of companies that have been successful by harnessing these strategies over the last decade.
- The public interest in workplace incidents highlights a reduced tolerance for exposing staff, contractors and members of the public to hazardous situations. There is now a heightened expectation for businesses to take all precautions necessary to ensure safety is prioritised.

Figure 10: Matters noted by FTI-CL important for driving customer expectations

Personalisation & choice

Goods and services are increasingly personalised to their individual needs.

Customer experience

Customer expectations now transcend industry boundaries, with the belief that every digital initiative is due to have the end-customer experience at its core.

Innovation

Customers actively seek innovation and new services based on their needs and new technology.

Figure 11: Companies that are creating new expectations

1



2



Figure 12: Field technician working at height on overhead asset de-energised



VECTOR SUGGESTIONS FOR OPPORTUNITIES FOR REFORM IN DPP3

DPP3 priorities

Regional tailoring –

Reflecting the unique challenges for different parts of the country. Auckland construction, infrastructure and cost of living are different to other parts of the country

The need for dealing with uncertainty –

Connections, load growth (such as EV take-up), likely legislative reviews and reforms (such as Tree Regulations review)

Reflecting the changing operating environment –

For example, community expectations for appropriate health and safety practices for staff, contractors and the public when setting reliability SAIDI/SAIFI metrics to eliminate the risk of short cuts being undertaken that compromise a safe workplace

Incentives for new problems –

For EDBs to consider “non-wire-alternatives” for traditional network issues. IRIS efficiency retention factor symmetry is not enough. Rewarding those that adopt the new roles and therefore deliver better outcomes for consumers

VECTOR POSITION ON ISSUES PAPER

Issue	Commission position	Vector position
Quality standard	<ul style="list-style-type: none"> No recognition of H&S operational changes in limits Removing breach or “highest and “lowest” years from the Reference Period 	<ul style="list-style-type: none"> Public expectations are for continuous improvements to H&S practices to be adopted by businesses. EDBs should not be held to standards that do not reflect heightened safety practices. The Reference Period should provide insight into the operating environment of EDBs and include all valid data points on the type of operating environment experienced by EDBs.
Operating expenditure	<ul style="list-style-type: none"> “Step and trend” for expenditure calibration Regional tailoring of expenditures are not going to be prioritised and should be considered in the context of a CPP “Step changes” to opex may only be considered if they are: significant, robustly verifiable, not captured in other parts of the projection, outside the control of the distributor and, in principle, be applicable to most distributors 	<ul style="list-style-type: none"> The “step and trend” approach is limiting by its presumption of a static operating environment and so it is important that a forward view is also considered in the calibration. Support recognition of the costs needed to access real time consumption information (such as from smart metering) which will assist with network planning as LV network visibility and planning become much more important for EDB network management. The Commission is undermining its position in the GPB DPP process where it found “tailoring” was consistent with the purpose statement of Part 4 and section 53K purpose of DPP/CPPs to allow for flexibility within DPPs. Inconsistent messaging between DPP processes undermines good administrative decision making. We also believe there is cause for Auckland specific tailoring given the range of issues affecting Auckland such as a construction program that has no modern equivalent over DPP3 and rising “wedge” of unaffordability for the region compared to the rest of the country. Step-changes to opex are likely to occur in DPP3 from matters such as the review of the Tree Regulations but the Commission’s overly restrictive criteria create a real risk that obligations applying to EDBs are not reflected in the expenditure calibration and penalised through the opex IRIS. The criterion of “robustly verifiable” is unnecessarily restrictive for considering step changes.
Capital expenditure	<ul style="list-style-type: none"> Use the AMP forecast with scrutiny of caps Using 2018 AMP forecast for draft decision and 2019 AMP for the updated draft decision and final decision 	<ul style="list-style-type: none"> The AMP forecast is appropriate but the use of “caps” needs to be the starting basis for scrutiny – it should be noted that some categories of expenditure are better explained through analysis of forward drivers which are more informative than caps based on historic expenditures. The Commission should use the latest AMP data.

VECTOR ISSUES PAPER CONTINUED

Issue	Commission position	Vector position
<p>Service-Quality Incentive Scheme "S-factor"</p>	<ul style="list-style-type: none"> Increasing the value of scheme to 5% of revenue Increasing the coverage of the scheme to 2 std deviations from the historic average 	<ul style="list-style-type: none"> Vector does not support any increase to the quantum of this scheme or the extension of outages liable to coverage within the scheme when the methodology used to set the parameters will encourage "short-cuts" or compromises to eliminate hazards for works in effort to expedite restorations or planned works. The parameters must also appropriately reflect the operating environment EDBs are having to work within – which for Vector includes a more complicated urban environment with greater volumes of traffic causing more car v pole incidents and civil infrastructure works causing cable strikes.
<p>GSL and other terms</p>	<ul style="list-style-type: none"> Interested in the work being done by the industry but no indication of whether it is part of Part 4 of the Act or how this fits with the regulation of the Model Use of System Agreement or Default Distributor Agreement 	<ul style="list-style-type: none"> Note the absence of clear direction in this area between regulatory responsibilities between the Electricity Authority and Commission is creating an uncertainty for industry and undermines the integrity of the Part 4 framework. Vector considers GSL type regulation can only be introduced under Part 4 and so any obligation related to GSL needs to be considered within the price-quality trade-off before being reflected in contract instruments .

VECTOR POSITION ON ISSUES PAPER

Issue	Commission position	Vector position
Incentive regulation	<ul style="list-style-type: none"> Proposing to raise the capex retention factor to be equivalent to the opex retention factor to reduce the “capex bias” Inclusion of a scheme to reduce reconciliation losses 	<ul style="list-style-type: none"> The approach to increasing the capex IRIS retention factor so that it is equal to the opex retention “benefit” is expected to encourage more substitution between capex and opex for network problems. However, some types of capex has limited substitution opportunities and so increasing the penalty for overspending may encourage inappropriate deferral replacement activity. The proposed incentive for reducing reconciliation losses has failed in other jurisdictions as being an effective incentive lever. The technical suggestions provided by the Commission will encourage “gold-plating” type behaviour. The increase to the capex retention factor itself will not reduce the inclination for “narrow” focussed EDBs from building more poles and wires for problems such as load growth. There should be a positive incentive that rewards EDBs adopting non-traditional solutions for network needs – such as encouraging demand response, new technology adoption or active network management. Given the new risks to load growth it is important EDBs are not barriers to new developments such as EV growth and should have mechanisms to meet EV demand and reward a facilitative approach to EV objectives.