

# VECTOR CROSS-SUBMISSION TO COMMERCE COMMISSION DEFAULT PRICE QUALITY PATH ISSUES PAPER



CREATING A NEW ENERGY FUTURE



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## EXECUTIVE SUMMARY

1. Overall submissions to the Commerce Commission's (the Commission) Issues Paper provided constructive feedback and useful information for the Commission to develop positions on the matters raised in the Issues Paper or to ask more specific questions through further discussion and consultation. In our cross-submission we have responded to issues which are drawn from a range of submitters comments. There were also some matters that appeared less relevant to the Issues Paper which we consider require clarification as in the absence of clarification these matters could result in misleading conclusions being drawn.

## NETWORK PRICE CHANGES TRENDS

2. The time series analysis by Genesis on residential price changes since 2009 is an example of where clarification is needed otherwise erroneous conclusions could be reached. The Genesis analysis fails to unpick transmission and distribution network charges over the time-series period presented. As a result, it is not clear whether prices changes are:
  - a) Evenly caused by transmission and electricity distribution business (EDB) price changes;
  - b) Disproportionately caused by EDBs; or
  - c) Disproportionately caused by transmission price changes.
3. Understanding the cause of the price changes is important to ensure any judgements and opinions are accurate and relevant. Without first establishing the cause of the price change, it is very difficult to assess the consequences of the trend. There is greater cause for concern if the changes are being caused disproportionately and not evenly between transmission and EDBs.
4. In this regard, Meridian noted the rise in residential prices by EDBs has been relatively modest since 2011 and that the largest contributor to real cost increases over the period has been from transmission. This observation is consistent with analysis performed by PricewaterhouseCoopers for the Electricity Networks Association (ENA) and time snapshot analysis reported in the Electricity Price Review (EPR). The EPR found between 2005-2014 transmission prices have increased at almost three times the rate of distribution charges for residential customers. Accordingly, if any action is needed to address network price changes then it more likely should address the significant recent increases to transmission charges.

## INCENTIVES AND PRIVATE LOCAL OWNERSHIP

5. We also consider there is a misapprehension by Genesis that local and community ownership has a causal relationship with underinvestment. The evidence relied upon for this claim constitutes:
  - a) The public scrutiny of the condition of Aurora's overhead poles which were found to have been in a state of disrepair; and
  - b) Vector's decision to transparently return loss rental rebates (LRR) incurred from delivering energy to the Auckland region, directly to Auckland customers.
6. Vector considers it important to recognise the issues affecting Aurora's overhead poles are not common across EDBs. Indeed, Vector has a thorough pole inspection, maintenance, design and replacement program and an accompanying safety record supporting this rigorous approach.
7. While on the topic of overhead assets, the one aspect of overhead poles which is a common concern across EDBs is the state of customer service lines (CSLs). We noted in our submission the condition of poles along right of way corridors is a matter that needs addressing given the uncertain history of these assets and general neglect by property owners. This should not be confused with underinvestment. Rather, the willingness of EDBs to encourage public discussion on CSLs is to avoid a public safety incident involving such assets given there is an increasing risk of an incident causing harm to the public.
8. The Vector decision to refund LRRs directly to Auckland consumers does not involve any diversion of any approved expenditures in default price path (DPP) revenues to users as suggested by Genesis. Rather, the direct crediting of the LRR to Auckland customers relates to the surpluses created by acquiring energy for the Auckland region. LRRs arise because of a mismatch in the wholesale energy prices nominated and reconciled at local nodes in the wholesale electricity market.
9. The suggestion by Genesis that private local ownership creates perverse short-term behaviour is counter to all recent commentary on the effect ownership has on business incentives. The Australian Productivity Commission found privately owned networks were more efficient than state owned equivalent businesses. Further, the New Zealand model of private local ownership of EDB assets is also

consistent with the Australian Foreign Investment Review Board decision to only approve local “bidders” for New South Wales electricity assets as part of recent asset sales to ensure critical infrastructure remains locally owned.

## **INDIVIDUAL PRICE PATH**

10. The Powerco submission noted the challenges of adequately addressing issues in the current regulation given the rigid criteria it applies to assessing a “step-change” or DPP re-opener.
11. We agree with Powerco’s suggestion of larger EDBs being subject to an individual price path (IPP) regulatory control as opposed to all EDBs being subject to the DPP/Customised Price Path (CPP). This is because the transitions occurring in the energy sector are affecting larger EDBs earlier and more quickly. Therefore, an IPP would enable the requirements to manage the change to be considered more effectively.
12. Indeed, the issues confronting Vector in supporting the current level of infrastructure and construction activity forecasted for the Auckland region are unique and challenging. We are anticipating a capital program of \$2.5 billion over the next 10 years to support Auckland’s infrastructure needs at a time when technology change in the sector is rapidly influencing the demand and consumption.
13. To this end, we consider there is a pressing need for greater certainty to support Vector’s significant anticipated investment program which has no equivalent in other regions of New Zealand. The investment risk giving rise to Transpower’s cashflow recovery profile are relevant to Vector’s circumstance with our responsibility for supporting Auckland growth and its enabling infrastructure. Therefore, we recommend EDBs that are in Vector’s situation can select the investment recovery profile most relevant to their circumstance. The fact that indexing and un-indexed cashflows are net present value equivalent means there is no difference in overall benefit between the cashflow profiles.

## **CPP APPLICATION WINDOW**

14. We agree with the suggestion by the Commission and supported by Wellington Electricity for a single end “cut-off” date for a CPP application for any one year. The Commission noted that recent CPP applications were submitted outside of the windows prescribed by the DPP Determination.

15. We suggest a “cut-off” date be determined by having regard to providing reasonable opportunity for an EDB to effectively determine and document their resourcing requirements necessary for transitioning to a CPP. Recent experience has suggested this requires more than three months from the start of a regulatory year for this process to be done effectively.

## **ISSUES RELEVANT TO SETTING EXPENDITURES**

16. Submissions to the Commission’s DPP Issues Paper raised some relevant issues to recalibrating expenditures for DPP3. In this section of the cross-submission we provide our feedback to those matters.

### **Capital contributions**

17. The Input Methodologies require the value of commissioned assets considered as part of an EDB’s regulated asset base to net off any capital contribution received for the commissioned asset. In the DPP Issues Paper the Commission indicated it may independently scrutinise EDB capital contributions.
18. Aurora raised concern about the Commission independently scrutinising EDB forecasts of capital contributions when setting capex for DPP3. We agree the topic of capital contributions is complicated and such a task should not be underestimated. For the Commission to independently review capital contributions it will also need to consider possible policy changes or new business drivers for the capital contribution change – this is especially relevant given the change to the form of control.
19. We agree with Aurora’s observation that asset relocations are very difficult to forecast with precision and are subject to external factors over which EDBs have limited control. For example, we noted in our earlier submission about the forecast significant increase to capital contributions that will occur from the Auckland Light Rail Transit (LRT). The LRT project is projected to increase our relocation program by up to \$80 million over the DPP3 period, if it proceeds to the proposed timetable. There is significant uncertainty over the contribution associated with the asset relocations needed to facilitate the LRT transit corner. Indeed, the complications are driven by the project being administered by the New Zealand Transport Authority (NZTA) on roads typically administered by Auckland Transport (AT). Therefore, the amount by which such relocations may occur with capital contributions are not currently clear and could have a significant impact on the “net” expenditure performance.

## **Connection expenditures**

20. Vector agrees with the Commission that the cost of connecting different types of customers may vary, having an impact on EDB connection expenditure forecasts. Even within customer categories, connection costs are also subject to significant variation. This is because the drivers of connection costs are subject to non-customer type cost drivers including distance, terrain (subsurface conditions) and equipment needs. Accordingly, we share Aurora's concerns about a disaggregated connections approach where assumptions about connection costs are considered purely in terms of customer type.

## **IFRS 16 Accounting standard change**

21. The Commission's Issues Paper discussed the impending change to the accounting standards affecting the classification of expenditures related to operating leases. We agree with the recommendation by Powerco and Wellington Electricity for operating leases to continue to follow the accounting principles consistent with the rule change. The IMs are drafted such that regulatory treatment is consistent with accounting principles for recording expenditures. Creating specific new rules for operating leases may unwind the approach of the IMs to follow accounting classifications for expenditure. Wellington Electricity recommend the Commission avoids implementing any changes that requires audited calculations for different reporting purposes.

## **Capex IRIS retention factor**

22. The capex incremental rolling incentive scheme (IRIS) retention factor provides the incentive for EDBs to make savings from their capital program over the course of a DPP. The Commission proposed to increase the capex retention factor incentive rate to make it consistent with the opex IRIS incentive. This proposal is intended to encourage EDBs to become less inclined to select capex strategies to manage network issues.
23. Overall, submissions on this issue expressed caution to the proposed approach being considered by the Commission of raising the capex retention factor. Submissions from Wellington Electricity and Powerco discouraged the Commission from imposing a higher capex retention factor for DPP3. These submissions noted the higher retention factor will create a stronger incentive for EDBs to defer investment in excess of the renewal investment necessary to maintain network quality. We share these concerns.

24. Orion and Aurora supported an increase to the capex retention factor on the condition the scrutiny of the capex allowance (having regard to AMP material) is sufficient to meet investment programs anticipated by EDBs. This concern is also raised by Unison. To limit the risk of investment penalty resulting from AMP investment programs not being recognised in the DPP, Unison has suggested the Commission consider different capex retention penalties for overspending that is within an AMP forecast, but over the DPP forecast, and over-investment in any one year exceeding both the DPP and AMP forecast. Whilst we don't see the need for this measure, it does underscore the importance of having reasonable capex forecasts to ensure essential capital programs are not compromised to achieve efficiency savings. Unison have pointed to the issue of coastal exposure to sea level rise as forcing new asset expenditures. Vector agrees with this concern and we are planning the relocation of an urban substation at Ngataranga Bay, in part, to address its low lying coastal exposure.
25. The ENA and Unison acknowledge the Commission's concern about EDBs not having sufficient incentive to seek out non-capital solutions for network problems. However, they suggest not all forms of capex can easily be substituted. Accordingly, the ENA suggests the Commission consider a different retention factor for categories of capex that have increasing levels of non-capital solutions. However, they also suggest the Commission adopt a lower retention rate for capex categories with more limited opportunities for substitution such as replacement, health and safety, and environmental capex. We recommend the Commission give this suggestion further consideration.

### **Capex IRIS short asset life adjustment for DPP3**

26. On 13 December 2018, the Commission sent an email to stakeholders clarifying the status of the capex IRIS model. In that email, the Commission noted the calculation of the capex IRIS recoverable cost relevant for DPP3 requires information on actual depreciation for commissioned assets for each disclosure year for the current DPP. This information will need to be produced by EDBs to determine their recoverable cost value. We encourage the Commission to prioritise this work in the coming months to ensure stakeholders have a clear view as to how their commissioned assets for DPP2 are expected to be treated within the capex IRIS.

## **Step changes to operating expenditure – low voltage network monitoring**

27. Submissions from Powerco and Orion noted low voltage (LV) visibility and monitoring will be a new capability underrepresented in current opex and capex used to recalibrate EDB expenditures.
28. This is a type of expenditure that will have a “step” trend effect as LV visibility becomes more important over the DPP3 period. The LV network is especially important for managing the increasing penetration of new technology distributed energy resources such as solar PV, battery storage and electric vehicles (EVs) on networks. The first network impacts from EVs are likely to be experienced at the LV level. The Vector EV Integration Green Paper observes that even with low levels of EV penetration such as 10-20 percent on a network feeder has the potential to contribute to low voltage capacity constraints.<sup>1</sup>
29. The ENA note the cost of access to smart meter data is anticipated to be a step-change cost within the DPP3 period. We agree with this expectation and suggest this cost is reflected within the new calibration as it is in line with the criteria articulated by the Commission for a step-change. Indeed, smart-meter data access will provide greater visibility of the performance and changes occurring at the LV level. Accordingly, we expect better visibility of the LV network will inform asset management programs to ensure this network is able to cope with the changes from new technologies.
30. The first step to greater visibility of the LV network is for networks to obtain access to half hourly, real time usage that could be provided by smart meters. Mercury stated 40% of interruptions occur on LV networks. We note the percentage of interruptions occurring on the LV network will vary significantly across networks and related to factors such as network design.

## **Guaranteed service levels**

31. We agree with the ENA’s view that matters such as a guaranteed service level (GSL) scheme must be considered under Part 4 of the Act before they can be reflected through contractual instruments including regulated contracts such as the Electricity

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<sup>1</sup> Vector, EV Network Integration Green Paper, p. 4 at <https://vectorwebstoreprd.blob.core.windows.net/blob/vector/media/the-spin-off/ev-network-integration.pdf>

Authority's (Authority) Default Distributor Agreement (DDA). The Authority's recent publication of its draft DDA consultation recognises there are several items that naturally fall within the remit of Part 4 of the Act. To this end, we consider any proposed "recorded terms" such as GSLs need to be appropriately considered as part of price-quality trade-offs before they can be reflected in contractual terms.

32. Orion noted that it does not support a GSL scheme to be introduced for DPP3 ahead of careful consideration of the detail of such a mechanism and its treatment within the regulatory regime. Mercury indicated that it would support a GSL scheme subject to appropriate design and funding.
33. Accordingly, the common feature of the Orion and Mercury submission is the need for a thorough process on the design of the scheme before its inclusion in the Part 4 price-quality-framework. Should the Commission consider a GSL for Part 4 then this will give rise to a "step-change" in opex to ensure such a scheme is appropriately funded.

### **Nominal expenditures – reflecting cost changes**

34. Vector agrees with the observation by Aurora and Orion that some regions of the country have materially different cost changes to the rest of the country.
35. As noted in our submission, the "wedge" between Auckland and the rest of the country has grown in the DPP2 period and failure to address the escalating cost differences undermines the position of using cost indices closely correlated to the cost drivers of EDBs as opposed to consumer price changes. We encourage the Commission to assess the effectiveness of its indices to reflect regional cost influences over the current DPP2 period. As discussed in our submission, we see the faster escalation in costs for Auckland relative to the rest of the country as a matter that needs to be corrected for in DPP3.

#### *Change to the form of control and impact on expenditure forecasting*

36. Wellington Electricity described the impact the Commission's constant price revenue growth (CPRG) forecasts on revenues under the weighted average price cap (WAPC) form of control. The CPRG forecast previously provided an indirect constraint on expenditures as departure from the assumed real revenue growth would either require incremental expenditure or more restraint.
37. However, under a revenue cap, the form of control does not provide any flexibility to address potential connection or system growth investment from unanticipated volume growth. This concern about the change in the form of control was also noted by Alpine Energy which discusses the need for a mechanism to cater for new growth under a

revenue cap form of control. We share Wellington Electricity's and Alpine Energy's concern about the expenditure methodology not recognising the new risk to resource sufficiency because of the transition in the form of control.

38. To manage the concern raised by Wellington Electricity and Alpine Energy to the form of control and impact on expenditure forecasting, Vector considers there are more innovative solutions such as uncertainty mechanisms for managing unanticipated growth driven expenditure. This is especially relevant given the greater uncertainty around volume growth from technology changes anticipated such as EVs for the DPP3 period.

### **Network innovation and demand side management**

39. Powerco noted the current approach for projecting opex (and to some extent – capex) by projecting forward historic expenditures may not reflect the scale and scope of investment needed to reflect electrification needs. Without specific network innovation incentive, there is a risk that New Zealand electricity consumers will not realise the full benefits from new energy technologies. The Powerco submission also discusses having an appropriate framework to ensure innovation investment is efficient (limiting duplication).
40. In this respect, Unison note networks are increasingly being called upon to consider alternatives to conventional network solutions and to support the development of new markets where third-parties can integrate network benefits with other benefits in the electricity supply chain as part of an overall business case. In this regard, Unison suggest the Commission needs to consider a wider view on incentives and encourages the Commission to consider the suggestions in the Brattle Report submitted by the ENA on incentive mechanisms for innovation and evolving business models. The FTI-CL regulatory blueprint for today's customer expectations also suggests a range of tools for EDBs to facilitate the adoption of new roles supporting non-wire alternatives and alternatives to conventional network upgrades.
41. Contact Energy note the imperative of ensuring appropriate demand side management (DSM) incentives are included in the upcoming DPP and encourage the Commission to investigate the success of similar schemes in other jurisdictions. To this end, Vector considers DSM and other non-wire alternatives should be designed to provide positive incentives within the next DPP otherwise they continue to risk being underutilised as solutions for network needs.

## QUALITY STANDARDS

42. In addition to the expenditure setting discussion, many submissions commented on the proposed changes to the DPP quality framework. The comments largely focussed on the current single measure of quality, namely the reliability standards set by system average interruption duration index (SAIDI) and system average interruption frequency index (SAIFI).
43. We also note this reset is coming at a time when the matter of resilience is an important issue for the sector, government and customers. This will become even more important where dependence on electricity increases because of the transitions in other sectors such as communications (i.e. optical fibre) and transportation (EVs). The April 2018 storm in Auckland demonstrated the dramatic impact wind gusts of more than 200 kilometres on our network and the importance of resilience to mitigate the impact of such events. We have also investigated how resilience can be enhanced<sup>2</sup> and how technology can help achieve resilience which in the past could have only been improved via costly investment solutions.

### SAIDI/SAIFI limits

44. Many submissions commented on the changes the Commission has considered for reliability standards to apply for DPP3 such as increasing the standard deviation to two standard deviations for the quality standard and increasing the revenue at risk for quality non-compliance. However, we concur with the ENA observation that novel compliance solutions such as expanding the reliability limit to two standard deviations should not be relied upon to support poor “target setting” for the reliability limits and the service-quality incentive scheme (S-factor). We consider the most important issue for the reliability metrics is to ensure appropriately defined limits related to the current operating environment of EDBs.

### The Reference Period

45. Vector agrees with the ENA’s concern around arbitrarily removing the highest and lowest years from the proposed Reference Period data set. The ENA submission suggests the removal of the highest and lowest years will reduce the statistical

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<sup>2</sup> Vector, Working Together on Resilience, September 2018 available at: [https://blob-static.vector.co.nz/blob/vector/media/vector-regulatory-disclosures/vector\\_resilience\\_white\\_paper\\_landscape\\_v2\\_sp.pdf](https://blob-static.vector.co.nz/blob/vector/media/vector-regulatory-disclosures/vector_resilience_white_paper_landscape_v2_sp.pdf)

properties of the data set – including significantly reducing the sample size and understating the impact of the “skew” to the statistics to validly represent the impact of causes such as storms, earthquakes and blizzards.

46. Vector does not agree with Aurora’s suggestion of a “static” Reference Period and Reliability Limit. Rather, we believe it is important for the reliability parameters to reflect the current operating environment to include most recent information. To this end, Vector supports the ENA’s recommendation of not adjusting data-sets for past contraventions of the Quality Standard. Retaining all data-points within the Reference Period:
  - a) Is consistent with how previous DPPs were set; and
  - b) Ensures the most recent operating environment information is captured within the reliability statistics.
47. Mercury suggested a “downward adjustment” for those years where an EDB contravened the quality standards for the last reset, but also noted it does not support removing the extreme years from the Reference Period as it would compromise the accuracy of past performance. We agree an accurate record is important for understanding the operating conditions for EDBs.
48. However, breaching the Quality Standard of itself does not mean an EDB has failed to discharge its responsibilities by making appropriate trade-off decisions. The overpowering influence of environmental factors can skew the SAIDI/SAIFI statistics in any year which will obviate the safeguards of limiting “false positive” breaches.
49. Further, even where the Commission has found concerns with EDB performance in a breach of the Quality Standard, it has not yet determined how it would classify matters that are within trade-off decisions and other matters that are not. For example, if an EDB experienced a high volume of third party damage to assets contributing to a breach of the quality standard. There is no guidance on how this issue is considered by the Commission for enforcing quality non-compliance.
50. Accordingly, there is no clear expectations provided by the Commission (such as Enforcement Guidelines) on how it would assess trade-offs undertaken once a breach of the Quality Standard has occurred. For example, where an EDB has increased its planned maintenance program during a breach, such information would be relevant for the Reference Period. Therefore, Vector agrees with the ENA and Wellington Electricity suggestions of all data points being used.

## **Revenue at risk for service quality incentive scheme (S-factor)**

51. Many submissions commented on the revenue at risk to be applied to the service quality incentive scheme. Submissions from Unison, the ENA, Orion and Eastlands all supported the retention of the revenue at risk for the S-factor scheme to be kept at one percent of lines revenue. Unison note the annual “swings” in reliability performance are driven by weather and the degree of penalty and rewards is largely a measure of whether the prevailing natural environment conditions were more benign or adverse relative to the Reference Period.
52. Both Aurora and Alpine Energy suggested that if the Commission continues with its suggestion of “moving” to two standard deviations then it should consider a “lower revenue at risk”. Alpine Energy and Aurora recommend the Commission adopt three percent of revenue at risk level for the S-Factor should it extend the range of the scheme to two standard deviations. However, Aurora explicitly caveats its recommendation for increasing the standard deviations for setting the S-factor on the overall Quality Standard package being reasonable and balanced.
53. NZIER, in a report for the MEUG, suggest the incentive rate for the S-factor should be linked to the value of lost load (VoLL) for customers. We caution against such an approach. There is significant variability in customer value for energy such as time of day, industry, prevailing conditions, season and time of year as part of any VoLL study. This can produce dramatically different results. Controlling for each of these variables is challenging and can produce a significant range of results for interruptions with similar characteristics across studies.

## **Separation of planned and unplanned SAIDI/SAIFI**

54. There are a range of views in submissions on whether the Quality Standard and S-factor should be comingled with planned and unplanned SAIDI/SAIFI or whether they should be measured separately. Submissions from Orion and Eastlands did not support the separation of planned and unplanned SAIDI/SAIFI reporting.
55. Vector considers the chief issue to consider is whether the co-mingled reliability limits ensure forecast works programs can be executed without increasing the risk of breaching. Otherwise the co-mingled limit is detrimental to the long-term benefit of end-users as short-term reliability concerns will challenge long-term network management imperatives.

## CONCLUSION

56. Vector recommends the Commission consider the information provided in submissions to the Issues Paper. The most common theme was the Commission to ensure reform of the reliability metrics reflects the current operating environment for EDBs.
57. Submissions to the Issues Paper also raised several new matters relevant for the upcoming DPP period that need to be considered for calibrating capex and opex. These include addressing the state of CSLs and access to smart metering data.
58. We encourage the Commission to further engage with stakeholders on these important issues through further consultation and industry workshops.