

MAJOR ELECTRICITY USERS' GROUP

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By email to powercocpp@comcom.govt.nz

Dear Dane

Powerco CPP proposal

Part 1 Introduction

- 1.1. This is a submission by the Major Electricity Users' Group (MEUG) on the Commerce Commission (CC) paper, Invitation to have your say on Powerco's proposal to change its prices and quality standards – Issues to explore and consider, 18 August 2017 (the "issues paper").¹
- 1.2. Attached is an expert report by Mike Hensen of NZIER, Powerco CPP application, Advice to MEUG for Commerce Commission submission, 22 September 2017.
- 1.3. An indication of the recurring theme in this submission that we don't think the CPP proposal leaves consumers better off compared to a DPP counterfactual is captured in the following extract from the NZIER report key points summary:

Key points

Our estimated annual benefit to consumers of a more reliable network (based on the mean value of lost load (VoLL) for residential consumers and the median VoLL for business customers) is:

- negative for 2018 and the first four years (2019-2022) of the Customised Price Path (CPP)
- the peak annual 'reliability benefit' for the Asset Management Plan (AMP) forecast period (2027) is estimated \$9 million – about one quarter of our estimate of the additional annual cost to consumers for the last year (2023) of the CPP of \$31 million.

¹ Consultation paper URL <http://www.comcom.govt.nz/dmsdocument/15687> at <http://www.comcom.govt.nz/regulated-industries/electricity/cpp/cpp-proposals-and-decisions/powercocpp/powerco-customised-price-quality-path-proposal/>

- 1.4. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.
- 1.5. MEUG acknowledge and thank Powerco and Commerce Commission staff for their time in meeting with MEUG members individually, MEUG collectively along with representatives of other consumer groups namely Consumer NZ and Greypower, the MEUG Chair, the MEUG Executive Director and advisors to MEUG (NZIER and Ireland, Wallace & Associates) on several occasions and providing additional information and answering inquiries. The opportunity to meet and discuss the application with both parties has been informative, though as our advisors NZIER and Ireland, Wallace & Associates have found, in many cases information has been incomplete.
- 1.6. In Parts 2.1 to 2.7 that follow this introduction section we provide feedback on the 7 issues identified in the issues paper. We then consider three new issues:
 - a) Weighing alternative price-quality paths (Part 2.8);
 - b) The imminent effect of emerging technologies (Part 2.9); and
 - c) Checking Powerco's claim the DPP has constrained expenditure (Part 2.10).
- 1.7. Part 3 lists possible improvements to be considered to the CPP regime from lessons learned with the Powerco proposal.
- 1.8. Concluding comments are set out in Part 4.

Part 2.1 Quality – issues relating to Powerco's proposed quality measures & standards

- 2.1. The quality and other dimensions of electricity line services that an individual customer wants over the long-term depends on the long-term cost of different quality paths. The same applies when aggregating many individual customer preferences to decide an optimal network wide price-quality path. The issues paper separates quality and pricing into different issues but does not draw those together. We asked NZIER to consider both quality and the value and cost to customers simultaneously. The results of that analysis are discussed in MEUG's new issue weighing alternative price-quality paths in Part 2.8. A significant uncertainty we had when considering the proposal and the issues paper was at what stage and who was responsible for weighing alternative price-quality paths. This is an issue that should be clarified for future CPP applicants.
- 2.2. As noted above the substantial analysis on quality in the issues paper is addressed in the NZIER report with an introductory overview in Part 2.8. The balance of this Part 2 provides feedback on three sub-issues relating to the quality proposal identified in the issues paper.
- 2.3. The first sub-issue was "Powerco's *proposed unplanned outage targets may not reflect the improvements to reliability that we would expect from its increased expenditure.*"² MEUG agrees this is a key issue. Importantly it is not clear there is a critical near-term risk to quality as noted in the issues paper "*This was a key issue identified by the verifier, who observed that Powerco's historic expenditure on asset replacement and reliability had led to a distinct trend of improving reliability (lower levels of unplanned outages).*"³

² Issues paper, paragraph 75.1.

³ Ibid, paragraph 77.

- 2.4. On the assumption quality is improving (the verifiers view) rather than being degraded (Powerco's view), the issues paper suggests SAIDI and SAIFI could be increased relative to those in the CPP application.⁴ MEUG suggests another option is to reduce proposed replacement and reliability expenditure relative to that in the CPP application and therefore level off the declining trend in SAIDI and SAIFI, ie keep those stable at current levels and decrease proposed expenditure. It's possible the reduction in expenditure could lead to expenditure being less than current DPP levels.
- 2.5. The second sub-issue was "*Powerco's proposal to exclude planned outages may weaken incentives for Powerco to minimise planned outages.*"⁵ This is an issue that should be considered. The tolerance of customers to planned outages is likely to be pragmatic if the frequency and duration of planned outages are similar to historic levels. As the frequency and duration of planned outages increase the tolerance of customers is likely to become stretched, ie VoLL will increase. Because planned outages are not costless to customers and that cost may increase if the frequency of outages increases markedly then it would be beneficial to have an incentive on Powerco to keep planned outages and their duration to a minimum. PwC estimate the VoLL for a planned outage at around two thirds the VoLL for an unplanned outage. This suggests that the current 50 percent weighting for performance measurement is about right. Powerco have not provided a rationale for removing planned outages from performance monitoring. Retaining this performance measure for planned outages would likely lead to Powerco exploring more innovative options such as providing critically affected customer's temporary back-up generators (or batteries) to minimise costs of planned outages running over -time.
- 2.6. The issues paper mentions Powerco is prepared to improve planned outage notification processes. We expect improvements anyway as part of Powerco's continuous improvement and the work of the Electricity Authority mandating appropriate Electricity Information Exchange Protocols (EIEPs) and implementation of a default distribution agreement that may include terms and conditions relating to outage notifications and default compensation requirements for poor performance on outage notifications. Without knowing exactly what additional obligations, including appropriate incentive and penalty mechanisms, Powerco is offering to improve outage notifications as part of the CPP we cannot say for sure if this is a proposal we agree with or not.
- 2.7. The third sub-issue was "*Powerco's proposal to use SAIDI and SAIFI as quality standards may not reflect the service outcomes that consumers value.*"⁶ MEUG agrees this is an issue to be considered.
- 2.8. The issues paper suggests a solution would be for Powerco to report progress against its planned CPP work programme.⁷ This may create some incentive by way of feedback to Powerco but we are wary it will simply be a tell-and-sell approach. We think a contractual incentive as noted in the discussion on sub-issue 2 above in paragraph 2.6 may be a better approach to facilitate Powerco engaging constructively with customers to find mutually beneficial solutions if problems emerge in meeting the work programme.
- 2.9. An issue not addressed in the paper, is that the quality standards of SAIDI and SAIFI, are not sufficiently granular to assist efficient price-quality trade-offs at the 6 distinct regional networks owned by Powerco.

⁴ Ibid, paragraph 79.

⁵ Ibid, paragraph 75.2.

⁶ Ibid, paragraph 75.3.

⁷ Ibid, paragraph 94.

Part 2.2 Long term pricing impact of Powerco's CPP proposal

- 2.10. The NZIER analysis discussed later in Part 2.8 weighing alternative price-quality paths required an estimate of post CPP capex and opex for the proposal and the counterfactual of remaining on DPP. The key point summary of the NZIER report notes:

The CPP and AMP are unclear about whether the increased capital (and operational) expenditure is a temporary 'catch-up' or whether expenditure will need to be maintained near CPP levels after 2027 (the end of the AMP).

- 2.11. From the analysis of NZIER MEUG agree with the CC that "*there is likely to an additional price increase in the subsequent pricing period*".⁸ That increase is likely to be material. The CC estimate this to be "*around 10% in addition to the initial increase of 5.7%*".⁹ MEUG agree this "*to be important as it may influence consumers' views on the extent and timing of Powerco's expenditure forecast, given that they may be unaware of this impact on long term pricing.*"¹⁰

Part 2.3 Potential price volatility from WACC change during the CPP period

- 2.12. Powerco propose setting cost of capital for the DPP reset from 2021 by forecasting the future rate to be applied as part of the CPP with revenue smoothing to avoid "rate shock" if the reset is left until 2020.
- 2.13. MEUG favours certainty of the future cost of capital rather waiting for a future uncertain determination and revenue cap. The critical process is the setting of future cost of capital assumptions today as part of the CPP approval.
- 2.14. Powerco provided access to its spreadsheet model including a version for our inspection. Specifically, MEUG focussed on the "switch" between the Powerco "universal" and "alternative" WACC models to better understand the formulas and the results. MEUG was expecting that the run of the two scenarios would result in equivalent net present values. However, this was not possible to check as some formulas were hidden in cells.
- 2.15. MEUG understands that there is no formal calculation of IRR in the Powerco CPP Proposal. This is a major omission. The precedent for the IRR reconciliation is that proposed by the Commission for judging Airports' profitability assessments.¹¹ For this CPP Proposal specific applications would involve, in addition to Powerco's "universal" and "alternative" WACC scenarios, runs to understand revenue smoothing, revaluations, asset lifetimes, etc.
- 2.16. The spreadsheet was not entirely fit for the CPP purpose other than drawing together data required for the CPP. The model appears to be static and limits the robust testing of the proposal.
- 2.17. The Powerco spreadsheet model does not provide for testing price-quality trade-offs or optionality in the potential for delayed timing of the planned expenditures. In the CPP the timing and amount of cash flows is relatively fixed.

⁸ Ibid, paragraph 95.

⁹ Ibid, paragraph 100.

¹⁰ Ibid, paragraph 97.

¹¹ Refer <http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/input-methodologies-review/airport-profitability-assessment/>

- 2.18. In reviewing the CPP spreadsheet we note that there may be an inconsistency in using assumptions for interest rates, commodities indexes, foreign exchange rates, inflation rates and revaluation rates. We recommend that the Commission tests for the parity between the various forecast rates.¹²

Part 2.5 Asset health and criticality and its impact on capex forecasts

- 2.19. NZIER considered this issue in detail in section 2 of their report (pages 14 to 22). Part of the key point summary of the NZIER report notes

The CPP and AMP are unclear about whether the increased capital (and operational) expenditure is a temporary 'catch-up' or whether expenditure will need to be maintained near CPP levels after 2027 (the end of the AMP).

However, the CPP and AMP do not deliver an across the board improvement in asset health by 2027 despite capital expenditure continuing at 86 percent of CPP levels over 2024 to 2027 – the gap between the end of the CPP and the AMP. Approximately half of the asset health indicators (AHI) listed in the CPP are forecast to be worse in 2027 than in 2016 for assets requiring replacement within 3 years and more than half of the AHI are forecast to be worse in 2027 than in 2016 for assets requiring replacement within 10 years. The lack of improvement in the AHI suggests that Powerco will have strong grounds to argue that the CPP level of capital expenditure and planned outages needs to be sustained after 2023 if the CPP expenditure reliability trade-off is approved by the Commerce Commission.

The Powerco CPP presents estimates of reliability gains and asset health at an aggregate network level and then detailed narrative on individual projects. This presentation does not highlight the differences between the two main networks – Eastern and Western.

The Western network has more severe fault problems than the Eastern network but this is not fully reflected in customer experience of outages as measured by the System Average Interruption Duration Index (SAIDI) and the System Average Interruption Frequency Index (SAIFI). The two networks also have markedly different asset age profiles and markedly different pricing plans for residential customers (the main source of revenue for both networks). Given these differences it is highly likely that customers in each network will face very different choices between price change and improved reliability.

- 2.20. Based on the analysis by NZIER, MEUG agrees with the tenor of the issues paper that the uncertainty of whether Powerco's asset health analysis and modelling practices are fit-for-purpose and expenditure optimally targeted using criticality analysis is an issue to consider.
- 2.21. The issues paper has 3 sets of questions on asset health and criticality.¹³ Those are considered as sub-issues in the balance of this Part 2.5.

¹² We have not checked the integrity of the CPP Financial Model, however we draw the Commission's attention to the tax rates or implied rates of 29% and 26.1% respectively on output page 62, worksheet "1.0 BBARx" line 44, 26.2% [1-73.8%] and line 56, 29%.

¹³ Issues paper, paragraph 134 to 136.

- 2.22. The first sub-issue was “*We are interested in stakeholders’ experiences with asset health and criticality analysis, and how practices have been implemented and integrated into industry asset management processes. We are interested in your views on whether EDBs should be prioritising these asset management practices as an industry.*”
- 2.23. In capital-intensive competitive businesses, such as many owned and operated by MEUG members, knowing both the health of assets and their value to the business is best practice and likely to lead to survival of the business. Businesses that fail to do so are likely to prosper by chance compared to peer companies that adopt best practice. The same should apply to EDB in terms of:
- EDB individually and collectively should be incentivised to adopt best practice asset health and criticality analysis; and
 - Like competitive markets EDB not operating at best practice should earn less than WACC and hence the incentive to implement best practice is to earn full regulated WACC.
- 2.24. The second sub-issue was “*In addition, we also seek your views on Powerco’s intention expand and embed its asset criticality framework, during the CPP period, which will apply a risk based approach to prioritising asset replacements based on safety consequence. We seek your views on whether this work should be prioritised during the period.*”
- 2.25. This work should be prioritised as soon as possible. Minimal change should be made to near-term expenditure relative to business-as-usual until that work has been completed otherwise there is a risk of over-investment. We do not see a near term risk of under-investment if Powerco’s expenditure plans are deferred until this work has been completed because recent trends for SAIDI and SAIFI are unclear and certainly not indicating near-term critical degradation as discussed in paragraph 2.3 above.
- 2.26. The asset criticality analysis requires estimates, amongst other things, of the value to customers of an asset or assets. In competitive markets customers reveal their preferences to consume a product or service at market set prices. Each seller in that market receives revenue based on the market set price and has an incentive to incur only efficient costs.
- 2.27. Powerco has two-line tariff structures, one each for the Eastern and Western regions. Neither tariff structure reflects efficient costs and hence efficient consumer preferences are unlikely to be revealed. The NZIER report notes this in the last paragraph of the extract of their key points summary in paragraph 2.19 above. In section 3 of their report NZIER analyse Powerco pricing and conclude in section 3.3:

3.3. Price signals?

Economically efficient prices send²⁵ signals to consumers the additional cost of increased capacity and the increased cost of using the network when it is near capacity – an aspect of the cost of reliability. Some of Powerco’s prices such as ‘demand’ and ‘capacity’ are much closer to being economically efficient than others such as ‘energy delivered’. Powerco does not have an explicit plan in its CPP to standardise pricing signals and move to cost reflective pricing despite proposing a step increase in investment.

- 2.28. An efficient pricing framework for Powerco would reflect the different demand profile and physical asset characteristics of the 6 distinct regional networks owned by Powerco. With cost-reflective and service based pricing for these 6 regional networks customer preferences would be revealed and hence complement Powerco's estimation of asset criticality and promote efficient outcomes. For example, cost-reflective and service based prices will:
- Unlock latent distribution alternative solutions that customers and their agents may have if prices in some regions and or for customer class(es) increase; and
 - Avoid inefficient distribution alternative investments and operating practices if prices, relative to other regions and or class(es) decrease.
- 2.29. The Commission's decision on the CPP needs to prioritise work on assessing asset criticality before major increases in expenditure commence. To assess asset criticality requires customer feedback and there is no better mechanism than observing actual customer responses to different prices reflecting different costs. Hence the CPP needs to prioritise expenditure by Powerco to implement regional network based cost reflective pricing. That will require Powerco to change how they propose to time and implement pricing changes and may, for example, require consideration of outsourcing rather than building pricing software capability in-house.
- 2.30. The third sub-issue was "*We are also interested in hearing whether such a framework should purely focus on safety, or whether it should also cover, in line with our definition of asset criticality analysis in this issues paper, identification of those assets for replacement that carry the highest value to the consumer and the business.*"
- 2.31. Investment and operating practices to continue or shore up problems with safety for EDB staff and customers is non-negotiable. Safety of people does not equate to SAIDI and SAIFI outcomes. We don't consider safety as part of an asset criticality analysis. Asset criticality analysis along with asset health assessments are needed to decide the best long-term solution for customers.

Part 2.5 Network evolution capex

- 2.32. MEUG does not support this proposal because in the normal course of providing lines services Powerco should be continuously improving and evolving their service (price, quality dimensions and other terms and conditions). That expenditure should be part of planned operating and capital programmes. This proposed work programme relates to how Powerco might position themselves longer-term for technology driven changes that will affect both customers and all parts of the supply chain. The output of this work will have strategic value to the owners of Powerco but it's not clear that the pay-back to customers will fully reflect the fact they will underwrite all the costs.
- 2.33. MEUG notes that the regulated WACC for EDB is at the 67th percentile. This bias above the expected mid-point, according to the Commission, adds certainty to incentivise investment including investment for innovation. This begs the question of why a separate building block allocation is needed for network evolution capex.
- 2.34. Even if the Commission believes there is merit in having a separate identifiable building block work programme for network evolution capex, MEUG suggests it would be premature for Powerco to invest in such until it and its customers had clarity on long-term cost reflective and service-based pricing for each of the 6 different sub-networks. Trials and experiments of customer behaviour using current prices will, other than by chance, be unlikely to reflect behaviour with long term prices. Approving expenditure for Powerco to adopt better regional pricing is the first priority.

Part 2.6 Opex forecasts

- 2.35. MEUG refers to the NZIER analysis that considers opex and well as capex.

Part 2.7 Deliverability risk of Powerco's CPP proposal

- 2.36. MEUG agrees this is an issue to be considered. There is another dimension to deliverability risk due to constraints other than people and equipment. That is Powerco deciding it is constrained in order to first meet higher shareholder returns and therefore delaying works. That risk isn't just hypothetical given the experience under DPP to date as discussed in Part 2.10.

Part 2.8 Weighing alternative price-quality paths

- 2.37. The issues paper considered quality (including asset health and criticality) and pricing as separate topics and we have commented on those in Parts 2.1, 2.2 and 2.5 of this submission. As discussed in paragraph 2.1 we asked NZIER to consider both quality and the value and cost to customers simultaneously.
- 2.38. The key note summary of the NZIER report notes:

Key points

Our estimated annual benefit to consumers of a more reliable network (based on the mean value of lost load (VoLL) for residential consumers and the median VoLL for business customers) is:

- negative for 2018 and the first four years (2019-2022) of the Customised Price Path (CPP)
- the peak annual 'reliability benefit' for the Asset Management Plan (AMP) forecast period (2027) is estimated \$9 million – about one quarter of our estimate of the additional annual cost to consumers for the last year (2023) of the CPP of \$31 million.

This gap between the estimated benefits and the estimated additional cost to consumers under the CPP is due to two factors:

- reducing unplanned outages is less valuable to consumers than the annual cost of the reduction
- Powerco's proposed increase in planned outages negates part of the benefit of the reduction in unplanned outages. (The estimated VoLL for customers for planned outages is only about two-thirds of the estimated VoLL for unplanned outages.)

- 2.39. We conclude from the NZIER analysis that customers will not be better off with the CPP proposal compared to the DPP counterfactual.

- 2.40. A new issue we recommend the Commission consider is to establish a similar analytical framework as that used by NZIER to weigh alternative price-quality paths. We asked NZIER to establish the analytical framework using information in the proposal and separately published by Powerco (AMP and disclosures) to estimate if the proposal was beneficial. The Commission should use this analytical framework and extend it beyond 2027 through to the end of the economic lives for assets included in the CPP because the Commission is required to consider the long-term benefit outcomes. That analysis should also take into account the effect of emerging technologies, including the option value they create, as discussed next in Part 2.9.
- 2.41. Weighing the proposal against a counterfactual and alternative price-quality path options must be the foundation of the final CPP decided by the Commission. There is nothing unusual about this step. It is standard cost-benefit-analysis (CBA). It's omission from the issues paper possibly reflects the CPP process to date has not required a comprehensive CBA analysis by the applicant.
- 2.42. There are though aspects of the process to date bearing on how customers may have perceived trade-offs they were asked to consider in weighing alternative price-quality paths. An initial list, not necessarily exhaustive, of price-quality trade-off issues follows:
- Powerco's often quoted 5.7% average price increase is a red herring and understates the long-term price impact.

In 2016\$'s the sum of opex and capex for the 5-years of the CPP will be 42% higher than the estimated expenditure for the immediately prior 5-years.¹⁴ The difference between the 5.7% and the 42% is due to capex being recovered over a longer time frame than the immediate 5-years of the CPP. In round terms the 42% higher actual expenditure is equivalent to the expected change in NPV. An individual household doing an NPV of their cashflows, everything else equal¹⁵, would have to plan on a 42% increase in line charges.
 - The 5.7% estimate excludes inflation. If inflation leading up to when prices change in April 2018 is 2% then the average increase will be 7.7%.
 - Using average cost shares to calculate the impact on an average household is misleading. CPP proposed works on the lower voltage network are likely to be charged to customers on the lower voltage network and not spread over customers taking supply at higher voltages. All customers pay a share of high voltage network costs. If the costs in the proposal are adjusted for this difference in the incidence of costs on customer classes, then households (all on lower voltage network) will have more than an average 5.7% real increase in 2018.
 - It's not just different voltage classes that matter. Households in the 6 different sub-networks owned by Powerco should have prices that reflect the current state of and future demand and price-quality path customers on each of those local sub-networks prefer. MEUG foresaw a risk a CPP applicant would consult on grand averages or misinformation (unintentionally as well as intentionally) when asking customers about price-quality trade-offs and submitted on that in the IM consultations last year.¹⁶ In reviewing lessons learned from this proposal those suggestions should be reconsidered.

¹⁴ Estimate of 42% increase from Commerce Commission presentation to MEUG, 23 August 2017, slide 3, <http://www.meug.co.nz/node/868>

¹⁵ Everything else being the same includes assuming long term no change in current DPP revenue path beyond the CPP, no future efficiency gains by Powerco and no future costs being spread over a large consumer base.

¹⁶ MEUG to Commerce Commission, Submission on IM draft review decisions, 4 August 2016, paragraph 15 b), <http://www.comcom.govt.nz/dmsdocument/14547>

Part 2.9 The imminent effect of emerging technologies

- 2.43. Earlier this month Transpower published a report, Battery storage in New Zealand, Discussion Document, September 2017.¹⁷ This was a milestone publication as it was the first independent, robust and credible analysis of the potential for batteries in the New Zealand electricity market. Before this publication many people used overseas references (that were not applicable for the New Zealand market) or the analysis were ad hoc or promoted by vendors of services with risks of under-stating costs and overstating benefits. One of the conclusions of that report was “Distribution-connected or community-scale batteries are expected to be economic from 2020.” That predicted date at which batteries become economic is far earlier than the Commission foresaw in the review of IM last year. It will be an issue that needs to be considered because it gives credibility to an option to delay as much as possible near term capital expenditure, not just for Powerco but all EDB, until there is more clarity on whether Transpower’s prediction that within 3-years batteries will be economic at the distribution level proves correct.
- 2.44. Transpower’s report on batteries also casts doubt on the demand forecasts from MBIE used by Transpower and EDB for long-term planning and Powerco in assembling the CPP proposal. MBIE’s inaugural and last Electricity Demand and Generation Scenarios forecast was published in August 2016.¹⁸ We think the Transpower battery report, if correct, will lead to a downward revision of annual demand forecasts though we agree with Powerco that intra-year variability may increase.

Part 2.10 Has Powerco been constrained by the DPP price path?

- 2.45. In section 3, headed “Why we are proposing a CPP” the application states¹⁹, with text underlined by MEUG:
- “The combination of historical regulatory constraints and an asset base of which a large proportion is reaching the end of its useful life, has meant that our operating position has deteriorated markedly in recent years.”
- 2.46. The latter claim on markedly deteriorating quality has been discussed in Part 2.1 above.
- 2.47. This Part 2.8 considers the claimed need for a CPP because of “historical regulatory constraints.” The discussion below provides an illustration of why MEUG is sceptical that this is a valid reason for a CPP and consequently significantly higher prices than a DPP price path in the near-term. MEUG suggests this is an issue the Commerce Commission should consider because it was one of two key drivers for the application.
- 2.48. That investigation and the Commission’s findings will also be of interest to prospective future CPP applicants. Historical regulatory constraints may be a valid need for a CPP in other cases and guidance on how that can be expounded in future applications should be developed.

¹⁷ <https://www.transpower.co.nz/about-us/transmission-tomorrow/battery-storage-new-zealand>

¹⁸ <http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/modelling/electricity-demand-and-generation-scenarios/edgs-2016>

¹⁹ Proposal, section 3, p8.

- 2.49. References to historical regulatory constraints in this application include:
- “Over the past five years, despite our regulatory price constraints, we have lifted investment by almost 60% to manage the ageing of our asset fleets and in support of economic growth in our communities.”²⁰
- “The backlog of outstanding maintenance defects has been growing due to DPP expenditure constraints ...”²¹
- 2.50. These quotes mischaracterise the DPP regime. A DPP price-quality regime does not specify set levels of expenditure. Instead a DPP sets a 5-year revenue cap and it is the choice of the EDB how to allocate expenditure and what profit to return to owners of the EDB. DPP are based on historic settings carried over, with some scope for changes in expenditure between DPP settings. It is possible that this historic trend and 5-year step basis for DPP is insufficient to both meet the needs of customers and owners and hence EDB can exercise the option of applying for a CPP.
- 2.51. As noted above EDB must and do make year by year decisions on expenditure to meet the near and long-term quality and service desired by customers and the return paid to owners. An EDB that clearly had problems in achieving both:
- near and long-term quality expectations at prices acceptable by customers; and
 - near and long-term returns to owners,
- would be candidate for a CPP that allowed an increase in expenditure above the usual DPP historic trend and 5-year step approach. Where one or both of those problems were not evident the CPP applicant might seek a higher price-quality path but the Commerce Commission, using the discretion it has, would set a CPP equivalent or near to the DPP that would otherwise have applied.
- 2.52. We tested whether Powerco has been failing to meet necessary expenditure needs and make adequate returns to its owners. On the first of these the application has several examples illustrating that Powerco has had below average unit opex.²² Powerco claim this as evidence of efficiency but arguably they can also be read as illustrating under-expenditure relative to other EDB most with similar asset age profiles.
- 2.53. Next, we considered returns to Powerco’s shareholders. The graph below illustrates the post-tax ROI in 2016 for all 29 EDB ranked from highest to lowest with Powerco’s ROI in red and marked with an arrow and explanatory text box.²³ Using this example Powerco earned a ROI of 6.36% which is greater than the regulated mid-point post tax WACC of 5.37% resulting in a \$15m higher return to its owners and, after tax, customers paid \$23m higher prices for that year.²⁴

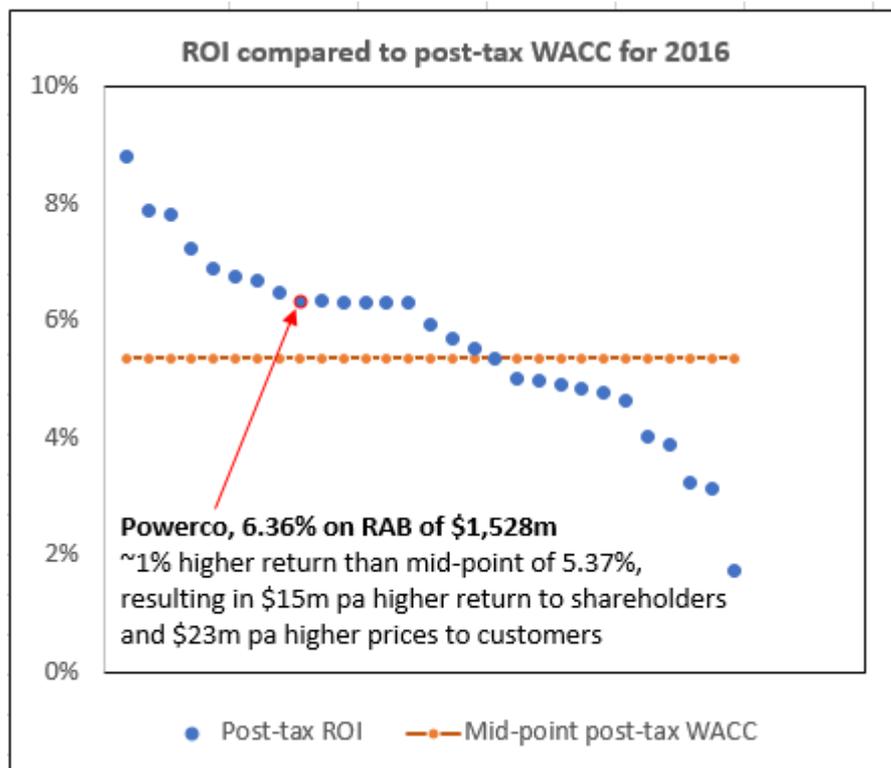
²⁰ Ibid, pii, paragraph 5.

²¹ Ibid, pxii, text box bottom of page.

²² Proposal, pviii, graphs at bottom of page.

²³ Refer PwC, Electricity Line Business, 2016 Information Disclosure Compendium, October 2016, p25 (for Return on Investment (ROI) comparable to post-tax WACC) and p18 (for end of year Regulated Asset Base (RAB)).

²⁴ The mid-point post-tax WACC of 5.37% is sourced from the PwC report in the footnote above.



- 2.54. From this initial analysis MEUG does not believe Powerco's owners have made sacrifices in order to meet necessary expenditure. It begs two questions
- a) If Powerco spent more on expenditure to date and therefore returned to its owners a return equal to the mid-point WACC whether quality standards would have deteriorated as claimed? In a competitive environment businesses do lower short-term profitability to secure longer term customer loyalty and profitability.
 - b) If Powerco has under DPP favoured shareholders (higher than mid-point returns) over customers (less expenditure than that needed to sustain long-term quality) then what is to stop the same occurring with a CPP? The owners of Powerco have every incentive to persuade the Commerce Commission to approve as high a price-path for a CPP as possible. Once that is locked in there are no mechanism to avoid the EDB cutting costs and not delivering on work programmes knowing that the effect on quality may not be seen during the proposed 5-year CPP. In any case, they can ask for more money in a future CPP application.

This scenario raises a question on the design of the CPP regime. CPP has features of both DPP and IPP but critically lacks the incentives and revenue cap mechanisms of an IPP to allow a ROI greater than regulated WACC to be earned from efficiency gains rather than, as is possible with DPP, to simply cut expenditure.

- 2.55. MEUG believes there is an issue to be investigated as to whether the CPP regime encourages EDB to use CPP applications as a means of shoring up sustained high returns to owners and foregoing expenditure knowing they can use a CPP to increase costs in the future.

Part 3 Improving the CPP regime

- 3.1. The Powerco Customised Price-Quality Path (CPP) application is the second application considered by the Commission since the CPP regime framework was enacted 10 years ago. The first CPP application, that by Orion following the 2010 and 2011 earthquakes, was an extreme test of the CPP regime and to an extent a matter of being pragmatic given the catastrophic effect for customers of Orion's line services. Hence the Powerco CPP application is the first true test of the CPP regime as an alternative for a regulated electricity distribution business (EDB) to remaining on a Default Price-Quality Path (DPP) as contemplated by Parliament in 2008 and implemented by way of initial Input Methodologies (IM) in December 2010 and amended last year.
- 3.2. We expect that with a such a unique piece of regulation such as CPP there will be lessons learned and improvements made to the regime following this first true test.
- 3.3. Topics to consider, ordered as they are mentioned in this submission for improving the CPP regime include (with paragraph references in this submission in brackets) follow:
- a) Providing certainty in the CPP regime at what point and who is responsible for weighing alternative price-quality paths (paragraph 2.1 and Part 2.8).
 - b) Giving certainty to applicants and customers that there will be co-ordination with the Electricity Authority to use EIEPs and the default distribution agreement as a complimentary or alternative tool to support the effective implementation of incentive and penalty mechanisms for a CPP (paragraphs 2.6 and 2.8).
 - c) Addressing the problem of insufficient granularity and forecast years on quality and costs (paragraph 2.9) and prices.
 - d) Supporting models should:
 - i) Have a formal proof for the IRR reconciliation that is transparent and replicable (paragraph 2.15); and
 - ii) Be capable of testing price-quality trade-offs or optionality in the potential for delayed timing of the planned expenditures (paragraph 2.17).
 - e) The IM should be more prescriptive on how an CPP applicant presents future price-quality paths for the feedback of customers to avoid problems observed with this application (paragraph 2.42 and footnote 16).
 - f) Clarifying for future CPP applicants when they can legitimately seek a CPP with a material increase in prices customers will pay due to historical regulatory constraints that have affected both expenditure and returns to shareholders (Part 2.10).
 - g) Is there a design problem with the CPP regime because it allows an applicant to have an approved building block basis for establishing a price path similar to an IPP. There are though no mechanisms found in IPP to protect customers from a successful CPP applicant then minimising expenditure to increase returns to owners the same way that is possible under a DPP? (paragraph 2.54 b)).

Part 4 Concluding comments

- 4.1. Powerco has made a CPP application for a 42% increase on expenditure relative to expenditure in the 5-years preceding the CPP. Powerco suggest two reasons for the need for this higher expenditure than remaining on DPP. First quality allegedly is rapidly declining and will do so unless expenditure increases. Second Powerco has been constrained by DPP. This submission refutes the latter and casts doubt on the former in terms of near-term risks. For the long-term we do not think Powerco has provided the evidence to demonstrate it has identified customer preferences for the trade-off between price and quality over the long-term (the near-term being part of that timeline).
- 4.2. This leaves the Commerce Commission with a fully costed CPP proposal for the next 5-years that will have long-term significant effect on prices paid by customers of Powerco but the long-term price-quality trade-off views of those customers is unclear. In addition, emerging technologies and changing pricing structures will affect the distribution industry including the behaviour of some customers, within or just after the end of the CPP in 2023. The Commission must therefore decide a final CPP that recognises shortcomings in the near-term need for the proposed higher level of expenditure and the clearer view likely to develop during the CPP or just after it has ended on the effect of emerging technologies and more cost-reflective and service based pricing.
- 4.3. Fortunately, the Commission can decide a price-quality path for this CPP as it sees fit and update the CPP regime so EDB, including Powerco, can make future applications for CPP with greater certainty and likelihood of improving the long-term benefit of consumers. The NZIER cost-benefit analysis comparing the CPP proposal with a DPP counterfactual taking into account the value of loss of load for planned and unplanned outages for differences in quality, overlaid with a qualitative view on the imminent effect of emerging technologies and changing pricing structures, is we believe a rational framework for the Commission to consider the form of the final CPP. Even without considering the effect of emerging technologies in the near-term, the NZIER analysis illustrates that customers will not be better off with the CPP proposed compared to the counterfactual of Powerco remaining on a DPP.

Yours sincerely



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