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Cross-submission

Draft decision: Powerco's CPP proposal

19 January 2018



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1 Introduction

Aurora welcomes the opportunity to cross-submit on the Commerce Commission's draft decision "*Powerco's proposal to customise its prices and quality standards*", 16 November 2017.

No part of our cross-submission is confidential and we are happy for it to be publicly released.

If the Commission has any queries regarding our CPP submissions, please do not hesitate to contact:

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2 Service quality and willingness to pay

Some submissions objected to the draft decision on the basis that consumers aren't willing to pay more to improve service quality.

MEUG suggested that "*The Commission should scale back targeted quality standards to the status quo*" and that "*Consequently, approved expenditure can be scaled back*".¹ MEUG further argues that "*The Commission has not provided a strong or clear rationale for giving so little weight to consumers unwillingness to pay more in exchange for improved future reliability*"². Pat Duignan went further, claiming that "*The draft decision creates a precedent by overriding customer's [sic] stated preferences...*"³.

Aurora does not believe these submissions should be given any particular weight.

Powerco's rationale for seeking a CPP is not to enhance service quality. The objective, clearly stated within the proposal, is a prudent and timely intervention to prevent service quality from further deteriorating to an extent that, if left unchecked, would likely result in future quality breaches. As such, Powerco's proposal seems to us to be predictable, and consistent with outcomes expected of default and customised price-quality regulation, given the natural incentives inherent in the regulations.

The Commission has noted that consumer feedback supports service levels being maintained; "*Powerco's consultation as part of preparing its CPP proposal indicates that service quality matters greatly to customers, and that deteriorating service levels would not be acceptable. Powerco notes that during its core consultation on its preliminary CPP proposal in early 2017, its customers said that current reliability should be maintained or improved*"⁴.

It is possible MEUG and Mr Duignan misconstrued the nature of the CPP proposal, because the Commission's draft decision effectively rejects Powerco's proposal to maintain its existing quality 'allowance' for unplanned outages, and instead imposes a requirement for a material reduction over the course of the CPP period. The basis on which the Commission has derived the proposed quality improvement targets, has not been fully explained nor modelled.

Given the Commission's draft decision that Powerco's proposed expenditure should deliver improved, rather than stabilised, quality performance, the Commission would now have to isolate and remove the expenditure that it considers sits above the expenditure required to maintain existing unplanned quality performance. We consider that most, if not all, of the proposed expenditure simply won't be granular enough for this to be possible. What the exercise might show, however, is

¹ MEUG. (2017). *Powerco CPP draft decision*. 15 December 2017, paragraph 4, p1.

² MEUG. (2017). *Powerco CPP draft decision*. 15 December 2017, paragraph 6, p2.

³ Pat Duignan. (2017). *Submission by Pat Duignan re Commission Draft Decision on Powerco CPP Proposal*. 15 December 2017, paragraph 26, p5.

⁴ Commerce Commission. (2017). *Powerco's proposal to customise its prices and quality standards: Draft decision*. 16 November 2017, paragraph 468, p106.

that the Commission's draft decision to set a higher service quality standard than proposed by Powerco is not well justified.

We query Mr Duignan's suggestion that "once the Verifier and Commission have concluded ... the proposed expenditure would result in an improvement in reliability ... the onus is on Powerco to explain how it will reduce its expenditure proposal"⁵. Powerco did not suggest that its proposal would improve service quality above the status quo, therefore, it is not Powerco's proposal to justify.

3 Continued raising of extraneous issues

Consultation is an important part of the CPP process. Our submission on the draft decision reflected our view that, while stakeholders are invited to submit their views on the consultation matters, it is not appropriate to use the CPP consultation to advance advocacy on unrelated matters; particularly given the importance of the CPP decision to the successful operation of the Part 4 regime and, more specifically, for consumer outcomes over the long-term.

As an example, Contact Energy has used the Commission's draft decision on Powerco's CPP to relitigate issues such as whether EDBs should be prevented from owning generation and storage assets, etc. This issue has been previously widely consulted on the Commission.

It was particularly surprising that Contact Energy would raise this matter again, given that the Commission has been very clear in a prior statement that "Some submitters in [the IMs review] process (retailers in particular) sought to constrain EDBs from fully using (ie, owning and operating) new technologies, in particular by restricting the inclusion of certain assets classes into the regulated asset base (RAB). We did not accept that approach ..."⁶

4 Proposals to add retrospective information requirements

We were surprised at Mr Duignan's support for the NZIER CBA, considering his role as a former Commissioner. We would expect Mr Duignan to understand and respect the existing IM rules, and the fact that they don't require the type of CBA he is now advocating.

Mr Duignan suggests that because Wellington Electricity provided a CBA with their limited scope / fast track CPP, then Powerco should have as well. We consider this argument specious. The IMs specify the information an applicant has to provide, and do not constrain regulated suppliers from providing additional information if they deem it helpful, as Wellington Electricity has done in this instance.

If the Commission made retrospective decisions to add information requirements, over and above the requirements of the IMs, this would create considerable risk and uncertainty for regulated suppliers considering a CPP; particularly given they cannot withdrawal the CPP once they have applied for it.

We reiterate our earlier comments, with regard to submitters advocating that CBA forms a part of CPP applications, that "The appropriate channel for advocating such requirements is, as the Commission notes, the IMs review process"⁷.

5 Problems with NZIER's CBA

Nothing in any of the submissions gives us reason to believe that the Commission should change its stance that the NZIER CBA is not fit-for-purpose. The NZIER submission seems more focussed on

⁵ Pat Duignan. (2017). *Submission by Pat Duignan re Commission Draft Decision on Powerco CPP Proposal*. 15 December 2017, paragraph 33, p6.

⁶ Commerce Commission. (2017). *Powerco's proposal to customise its prices and quality standards: Draft decision*. 16 November 2017, paragraph 301, p76.

⁷ Aurora Energy Ltd. 2017. *Powerco's proposal to customise its prices and quality standards: Draft decision*. 15 December 2017, section 5, p3.

defending their own work, and downplaying the issues with their CBA, than addressing the problems identified by the Commission.

The Commission has clearly demonstrated that the NZIER CBA is biased against the proposal, and could be reasonably adjusted to produce a positive outcome.



22 December 2017

Submissions
Commerce Commission
PO Box 2351
Wellington

Via email: powercocpp@comcom.govt.nz

Dear Commission

Re: Cross-submission on Powerco CPP draft decision

1. Thank you for the opportunity to provide a cross-submission on the Commission's Powerco Customised Price Path (CPP) draft decision.
2. The focus of this submission is Powerco's network evolution capex. Our previous submission provided support for elements of Powerco's network evolution capex.
3. We agree with the Commission's draft decision which stated, *"We consider Powerco needs to provide more tangible justification underpinning how consumers are likely to benefit from the specific projects it is proposing to undertake."*
4. We also agree with Powerco's submission on the draft decision which stated, *"We disagree with the decision to reject all project investments included in the network evolution portfolio, rather than review and consider the merits and priority of each individual project on a standalone basis."*
5. To provide the Commission with more detail and justification for the proposed network evolution capex, Powerco has commissioned Allan Miller Consulting (consultant) to assess each of the projects in the network evolution expenditure portfolio.
6. We have read the report prepared by the consultant and make two key observations:
 - 6.1. The report provides a general overview of the potential benefits of each network evolution activity area to the industry as a whole. However, the report demonstrates a limited understanding of which activities are a natural part of the monopoly service, and which activities could be supplied by contestable markets.



Powerco does not yet appear to have determined what its role, as a regulated monopoly service provider, is in relation to each network evolution activity. We remain concerned that Powerco's 'Distributed System Integrator' vision includes a foray into competitive markets, and that elements of any approved network evolution regulated funding will be used to compete with private capital in developing customer energy services.

- 6.2. The report provides little to no detail on actual plans and projects that require network evolution funding. It is difficult to see how the report could provide the Commission with any evidence that Powerco has further developed its network evolution strategy or demonstrated what the benefits would be to consumers of Powerco's regulated lines service, who would be paying for the network evolution funding. We provide further comments on a number of the individual network evolution activities below.
7. There are three areas of Powerco's network evolution funding that we do not support. These include the following:
 - 7.1. **Energy storage:** The consultant's report correctly identifies that activities should concentrate on how to utilise the multiple benefits potentially available from storage. Powerco has not provided any detail on how they would utilise network evolution funding on energy storage, including what Powerco's role would be in a rollout of storage assets that can access multiple value streams.
 - 7.2. **Demand management:** Similar to energy storage, the consultant's report identifies that demand management can provide services to multiple parties, including customers, networks, managing energy prices and ancillary services. Powerco has not provided any detail on their plans for network evolution funding in this space, including what Powerco's role would be in any customer demand management applications.
 - 7.3. **Integrating community energy schemes:** The consultant's report includes applications such as peer-to-peer trading and the use of community level storage. There are privately funded businesses developing these services in New Zealand today. It is unclear how Powerco intends to utilise any network evolution funding allocated to this area.
8. Powerco can access all of the network benefits of energy storage, demand management and peer-to-peer trading by collaborating with third parties, such as Contact, who are developing unregulated businesses which provide customer energy services.



9. Rather than the Commission approving Powerco's proposed network evolution capex for the three activities above, the Commission should consider approving network evolution opex, which can be utilised by Powerco to test and learn how to collaborate with third parties to realise the distribution network benefits that each application can provide Powerco.

10. This approach would be no different to the regulated funding Transpower has in place at the transmission level to test and learn how to utilise third party demand response for the benefit of the network, and for consumers of network services.

We would be happy to discuss or engage further with the Commission if it would be of assistance.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Louise Griffin', is written in a cursive style.

Louise Griffin
Head of Regulatory Affairs and Government Relations

Cross-submission from Grey Power Federation National Advisory Group on Energy.

I will keep this very simple.

It is this groups concern that little of what has been put forward in the main submission of this organisation and the main submissions of others has been taken into account in your decision making and to that concern We would like to make the following points, as supported by the cross submissions of others.

Surely it is the responsibility of all network owners to maintain their network to a minimum standard of safety and security, this would normally be done out of revenue and from depreciation funding, why is it suddenly a problem that needs to be fixed by the raising of more capital?

The question must be asked what has Powerco been doing with the revenue it has been receiving from its consumers and where is the funds set aside from depreciation?

Rather than approving the application by Powerco it is Grey Powers contention that an investigation should be undertaken as to where and on what has all the previous revenue and depreciation funds been spent on.

When it comes to improving reliability it is very clear that the average consumer is quite happy with the current level of reliability and it should be noted there is no such thing as 100% reliability so a line on spending on reliability must be drawn at some point and we believe that Powerco are suggesting a point beyond common sense.

This organisation supports the submissions and cross submissions of the following;

Grey Power Zone four who have a large part of Powerco's network in their zone.

Molly Melhuish a long time battler for the consumer, also a member the Grey Power Federation Advisory Group on Energy.

MEUG with whom we have a close association.

Allen Davies co-chair Grey Power Federation Advisory Group on Energy.
Contact details phone 09-372-7481
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Grey Power Federation Zone 4



Dane Gunnell
Senior Analyst, Regulation Branch
Commerce Commission

Powerco CPP draft decision – cross submission

1. This is a cross-submission by Zone 4 of the Grey Power Federation (Zone 4) on the submissions of other parties to the Commerce Commission draft decision on Powerco's proposed CPP.

2. Consistent consumer opposition to price increases

Eight of the 11-submissions were from consumers and the ninth from a retailer, Contact Energy, acting as an agent for consumers

A common theme of these submissions is the concern over increased costs to consumers. This concern has several elements:

- 2.1 The proposal to fund deferred capex renewals through direct levy on consumers. This was a key point of our submission. In addition we support the views expressed by others.

- 2.1.1 Davies asserts that: "Powerco have failed to keep their network up to date and fit for purpose at all times they should not now be imposing increased costs onto the consumers to catch up while more than likely still paying dividends to their shareholders." and "It is now the Commerce Commissions responsibility to see that Powerco get their network up to scratch, but at the same time to not penalise their consumers of today for their past lack of future proofing of their network."

- 2.1.2 Kamada Developments states that "There now seems little doubt many of the network assets are in a run-down state and need urgent attention. What has not been addressed by the Commission is why this is the case and how this has reflected financially for PowerCo. Have PowerCo shareholders been advantaged financially through insufficient maintenance in past years? Did PowerCo purchase run-down assets at a reduced price and now need catch-up maintenance?"

...

why consumers should shoulder these increased costs? Corrective work is obviously required and this cost should be borne by the shareholders not by consumers.

- 2.1.3 Terry Wilson submitted that "... the company, while producing healthy profits and large dividends for many years, has suddenly discovered that it has, over those many years, been neglecting to adequately fund the renewals of its equipment. As with Aurora Energy, Powerco has had the choice of pleasing its shareholders or sustainably funding equipment renewals.

These decisions to divert cash from renewals to dividends may have been made on assumption that you would grant their application for a CPP. If you grant this application other companies will become aware of your feckless decision-making and assume that they can behave in same way as Powerco and Aurora by neglecting their renewals as a way of bypassing the DPP. Any company that pays a dividend should not complain that they can't afford to pay for their renewals capex and they certainly should not expect the Commerce Commission to ensure that they can continue to pay a healthy dividend.”

2.2 Quality of delivery services.

We support the submissions below that point out the disparity between consumers' expectations and the recoded reliability of service delivery, and the proposed increase in quality standards.

2.2.1 MEUG submitted that the Commission should “scale back targeted quality standards to the status quo and consequently approved expenditure can be scaled back.

2.2.2 Mr Duignan submitted “The Commission’s process for evaluating CPP proposals requires a decision on “*appropriate service standards*” and in the case of a proposal for higher expenditure to maintain or increase reliability that decision needs to be based on a comparison of cost versus benefits. ... surveys indicate that customers do not want to pay for increased reliability,

2.3 Demand assumptions and network evolution

We noted the rapid change in network capabilities and economics and queried the rationale behind providing ‘more of the same’ as an optimum approach to meet the best interests of consumers.

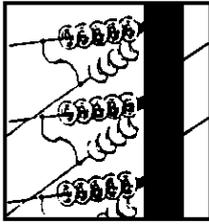
We therefore support the following points made.

2.3.1 Ms Melhuish stated that: “I consider it essential for non-network solutions to be developed especially to improve reliability. Note that Vector is evolving its network as part of its normal business planned expenditure, as it should be.”

2.3.2 Contact Energy considered that: “The task we believe lies in front of networks is looking to transition to intelligent, dynamic networks that can act as a platform for services. ... Costs to consumers can be minimised when distributed generation assets are optimally used.”

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MAJOR ELECTRICITY USERS' GROUP

19 January 2018

Dane Gunnell
Senior Analyst, Regulation Branch
Commerce Commission
By email to powercocpp@comcom.govt.nz

Dear Dane

Powerco CPP draft decision – cross submission

1. This is a cross-submission by the Major Electricity Users' Group (MEUG) on the submissions of 10 other parties to the Commerce Commission draft decision "Powerco's proposal to customise its prices and quality standards", 16 November 2017 (the Powerco CPP draft decision).¹
2. MEUG members have been consulted in the preparation of this submission. This submission is not confidential. Some members may make separate submissions.
3. This cross-submission has 10-section headings:
 - Heightened interest by consumers in this CPP application and pending decision;
 - The draft decision is wrong to increase quality standards and impose higher costs on consumers as that does not match consumer preferences;
 - The Commission's decision-making has erred from best practice and possibly the requirements of the Act in failing to undertake a cost-benefit-analysis;
 - The Annual Delivery Report;
 - Early disclosure of information on options;
 - Deferred capex renewals;
 - A range of demand scenarios is needed;
 - Tauranga area and Whangamata projects and reactive maintenance need to be reviewed;
 - Concerns on quality of PODs and OAEETs and why sum of those net benefits is not equivalent to an estimate of the net benefit for the application as a whole; and
 - The Network evolution proposal.

¹ <http://comcom.govt.nz/regulated-industries/electricity/cpp/cpp-proposals-and-decisions/powercocpp/powerco-customised-price-quality-path-draft-decision/>

Heightened interest by consumers in this CPP application and pending decision

4. Seven of the eleven submissions were from customers or consumer groups and the eighth from a retailer, Contact Energy, acting as an agent for consumers.² The remaining three submissions comprised:

- One from an independent expert, Pat Duignan. The submission by Mr Duignan, an ex-Commissioner with the Commerce Commission, is important because of his expertise and experience; and
- Two from Electricity Distribution Businesses (EDB); the applicant Powerco and a potential CPP applicant Aurora Energy.

This is probably the highest proportion of consumer feedback on any Part 4 of the Commerce Act consultation ever.

5. The heightened interest by consumer groups is a desirable outcome as improving customer participation is an important policy objective. On the other hand, the reason for the heightened interest appears to be concerns at the decisions proposed in the draft decision. For example:

- The treatment of who should pay for deferred capex renewals raises important policy issues; and
- Why should customers of monopoly services provided by Powerco pay more for higher quality when:
 - ~ Customers do not want to pay for higher quality? and
 - ~ NZIER's initial view is that the customer value of the incremental benefit³ of higher quality than the status quo is less than the incremental cost for the 10-year period covered by the Powerco CPP forecasts.

The draft decision is wrong to increase quality standards and impose higher costs on consumers as that does not match consumer preferences

6. MEUG submitted the Commission should scale back targeted quality standards to the status quo and consequently potentially approved expenditure can be scaled back.⁴ Pat Duignan submitted on this topic in detail. He affirmed our view Powerco consumers prefer quality to be maintained and an aversion to higher quality if that incurs higher costs.⁵

7. Mr Duignan submitted:⁶

"The Commission's process for evaluating CPP proposals requires a decision on "*appropriate service standards*" and in the case of a proposal for higher expenditure to maintain or increase reliability that decision needs to be based on a comparison of cost versus benefits. Information limitations do not remove the need for such a decision.

The Commission is creating a precedent that, in response to an expenditure proposal that the Verifier and Commission judge increases rather than maintains reliability, when surveys indicate that customers do not want to pay for increased reliability, the Commission will test the technical efficiency of the expenditure and then define the quality standards that result from the proposal as appropriate service standards."

² The count of 11-submitters assumes the report by NZIER for MEUG and Allan Miller Consulting for Powerco are treated as part of the submissions of those parties and not separate submitters.

³ The benefit is calculated as the described estimated value of lost load avoided, a similar approach to that used by Powerco in its analysis of the major projects as Options Analysis and Economic Evaluation Tool (OAEET).

⁴ MEUG submission, paragraphs 6 to 11.

⁵ Pat Duignan submission, paragraphs 2 to 8.

⁶ Ibid, paragraph 9.

8. The submissions of Mr Duignan have reinforced and strengthened our views on this issue. We submit the Commission is wrong to increase quality standards and therefore impose higher than desired costs on consumers as that does not match consumer preferences. Corollary points to our view are:

- If the draft decision stands it will potentially create uncertainty for future CPP applications for all parties on the relevance of surveys conducted to uncover consumer preferences. This risk is demonstrated in the draft decision for this application where the outcome is:
 - ~ contrary to the response of customers; and
 - ~ the draft decision has no robust model or quantified analysis supporting an increase in quality.

On the latter point NZIER's initial view was that the customer value of the incremental benefit of higher quality than the status quo is less than the incremental cost for the 10 year period covered by the Powerco CPP forecasts.⁷ NZIER maintained this view after re-estimating the net benefit to increase the consumer and business value per kWh of lost load by 2 percent per year (in response to Commission comments) and after adjusting for the reduced unplanned SAIDI targets set by the Commission (which increase the value of avoided unplanned outages).⁸

On the former point, if consumers perceive their voice is not being listened too that will act as a disincentive for future consumer participation.

- We see no reason why the Commission cannot use methods to decrease the CPP revenue cap other than just relying on juggling the discrete forecast capex proposals and opex costs in the application. Where a detailed bottom up estimation of costs over a 5-year CPP do not allow precise scaling for different levels of quality then a method to scale costs to match desired quality should be used.

We do not understand why scaling has not been considered when the final determination is for an annual revenue cap with no requirement for delivery of specific projects or opex in the application or referenced in the decision material supporting the determination. Once the final determination is made, it is up to Powerco how to best utilise resources given the aggregate revenue cap and quality standards.

The Commission's decision-making has erred from best practice and possibly the requirements of the Act in failing to undertake a cost-benefit-analysis

9. MEUG submitted a rebuttal to the view in the draft decision that a CBA was not needed to compare the application against alternative price-quality path options. An expert report by NZIER responding to the views of the Commission on the need for a CBA was part of our submissions.⁹
10. The submission by Pat Duignan comprehensively canvases the legislative and best public policy practices of when and how to conduct CBA for economic regulation and for Part 4 of the Commerce Act including consideration of CPP applications.

⁷ The analysis supporting the comparison of the benefits and costs over the period covered by the Powerco CPP forecasts 2018 to 2027 is explained in NZIER, Submission on Powerco CPP Issues paper, 22 September 2017, Section 1.2 pages 1 to 5.

⁸ NZIER's response to the Commission critique of the comparison of costs and benefits over the period covered by the Powerco CPP forecasts (2018 to 2027) is explained in NZIER Submission on Powerco CPP draft decision, 15 December 2017, Section 3 pages 10 to 11.

⁹ MEUG submission, paragraph 9, and NZIER report to MEUG, pp10-11.

Given the experience of Mr Duignan, the points in his submission should be a key foundation for the final determination. To paraphrase some the points by Mr Duignan:

- The Commission must decide on “appropriate service standards” and if it is deciding to improve reliability it needs to compare the cost and benefit of the increased reliability.
- The Commission’s Powerco decision creates a precedent of using the proposal to define appropriate quality standards delivering increased reliability when surveys indicate that customers do not want to pay for increased reliability.
- The draft decision’s central justification for overriding the expressed consumer preference - “needs to be supported by a cost-benefit analysis comparing that value with the cost”.
- Undertaking cost-benefit analysis in the way proposed is not introducing a new evaluation criterion. It is just using a standard tool to quantitatively assess the net benefit to consumers.
- Cost-benefit analysis is not a special methodology that would be appropriate only if detailed in the input methodologies.
- The Commission cannot be sure that the Powerco CPP draft decision is in the long-term interest of consumers, without undertaking a cost-benefit analysis.
- The Commission should analyse the reliability-cost trade off in deciding this and similar CPP proposals. This would be consistent with the concept of DPP-CPP regulation. A CPP decision is the only opportunity to consider this key trade-off issue.

11. Aurora Energy supported the draft decision that a CBA was not required.¹⁰ Aurora made several points.

- Aurora – “Quantified CBA can play an important role in decision-making.”¹¹
MEUG view – The caveat of “can” in the above quote leaves us uncertain if Aurora have a view on circumstances when a CBA is important or not, or necessary or not. It would be useful to understand what cataloguing Aurora have in mind because we do not see any other option than to use a CBA as discussed in the next bullet-point. We would therefore substitute “must” for “can” in the above quote.
- Aurora (paraphrased) - Input Methodologies (IM) do not require a CBA for CPP and therefore MEUG and others should have suggested this change in the last review of IM.¹²

MEUG view – IM may not explicitly state precise CBA mechanics but it is inconceivable how, other than by an ad hoc approach and luck, that a CPP final determination will be the best of all feasible options for the long-term benefit of consumers. Therefore, implicitly a CBA is necessary. This view is supported Pat Duignan’s submission which argues that:

- ~ CBA is a tool that is appropriate for the Commission’s assessment of the net benefit of the CPP to consumers and is not a separate evaluation methodology that needs to be specified in the input methodologies.
- ~ The Commission cannot be sure that the Powerco CPP draft decision is in the long-term interest of consumers, without undertaking a cost-benefit analysis.

¹⁰ Aurora Energy submission, section 5, p3.

¹¹ Ibid, section 5, paragraph 4, first sentence.

¹² Ibid, section 5, paragraphs 2 and 3.

- Aurora (paraphrased) – Cannot allow a ‘mid-play changing of the rules of the game’ by determining the CPP application using CBA after the application has been made.¹³

MEUG view – As noted above we cannot see how a robust and defensible determination can be made without a CBA. Aurora submit a mid-play changing of the rules would be contrary to the regulatory certainty principle underpinning the IMs. We think Aurora is referring to the regulatory certainty objective for IM and note that is subsidiary to the overall Part 4 objectives.

If you apply the Part 4 objectives we do not see how the long-term benefit of electricity customers supplied lines services by Powerco will achieve the best ex ante set price-quality pairing without a CBA approach. Regulatory certainty may be a material factor in a broader CBA for precedent effects for future CPP applications; but that cuts both ways. Powerco may feel aggrieved with the Commission applying a CBA but should the Commission fail to do so, then consumer confidence in the CPP process and the Part 4 regime is at risk of being undermined.

- Aurora – “It is disappointing that the CBA provided by NZIER was of such a poor quality, and excluded substantive categories of benefits. Aurora Energy agrees with the Commission that, regardless of whether quantified CBA should be part of the relevant criteria for a CPP, the NZIER CBA is not fit-for-purpose and, if it is corrected for the most obvious and egregious errors, the NZIER CBA can actually provide support for Powerco’s CPP proposal.”¹⁴

MEUG view – Aurora’s comments presumably stem from the first NZIER report of 22 September 2017 submitted as part of MEUG’s response to the Commission’s “Issues to Explore and Consider” paper of 18 August 2017 and the draft decision of 16 November 2017. We asked NZIER to provide a CBA framework that the Commission should use and proposed that in our earlier submission in September. We have never claimed the NZIER CBA was comprehensive.

Aurora’s submission refers to our CBA framework as being “poor quality”, “excluded substantive categories of benefits” and claims “if it is corrected for most obvious and egregious errors, the NZIER CBA can actually provide support for Powerco’s CPP proposal.” Without evidence or cross-references from other source material to support those statements, MEUG recommend the Commission ignore those submissions.

Moreover, Aurora’s submission that an amended NZIER CBA could support the Powerco CPP proposal reinforces MEUG’s point. If a robust CBA supported the proposal that would provide a welcome evidence base for consumers to support the Commission’s decision-making. MEUG’s issue is that that evidence base is currently lacking and should form part of the Commission’s final decision-making.

The Annual Delivery Report¹⁵

12. Powerco submitted on several details of the Annual Delivery Report proposed by the Commission.¹⁶ The submissions by Powerco reinforced with us the view that this is not a trivial exercise. We don’t think it is productive for the Commission to put resources into fine tuning the Commission’s expectations of what might be in the Annual Delivery Report before the final determination date when resources should be deployed undertaking a CBA.

¹³ Ibid, section 5, paragraph 3.

¹⁴ Ibid, section 5, paragraph 5.

¹⁵ Previously the Annual Delivery Report had been termed the Annual Planning Report (ARP).

¹⁶ Powerco submission, paragraphs 28-39. Powerco refer to

13. Contact Energy submitted in detail on options for external consultation for third party providers of alternatives to traditional lines and wires solutions. In that context Contact Energy were not supportive of the Powerco led Annual Delivery Report.¹⁷ MEUG has a different view, at this stage, to Contact Energy on the relationship between regulated EDB services and third-party providers.¹⁸ Setting this aside, we agree with the risks with the Annual Delivery Report in Contact Energy's submission:¹⁹

"Looking to an industry-driven, passive 'after the event' self-assessment process is not the kind of regulation that is needed to incentivise certain behaviours."

"It [the Annual Delivery Report] would impose costs on networks for no apparent purpose in preparing documents that would be of no practical use to anyone."

14. A solution for reducing these risks is to require and specify how and with which parties Powerco should consult on the design of an Annual Delivery Report. Those parties should also have the back-stop of asking the Commission to intercede should agreement not be possible with Powerco; otherwise interested parties will have no countervailing power to Powerco and participation in the process will languish. Fonterra mention this aspect in their submission:²⁰

"The APR document looks like a step in the right direction but there is no way to ensure customer feedback is taken on board to drive improvement in the following years. Fonterra recommends that CC consider how such an improvement could be incorporated."

Early disclosure of information on options

15. Since submissions on the draft decision closed, MEUG has lodged a submission on the Transpower Capex IM draft decision. In that submission, we recommended Project Overview Documents (PODs) and Options Analysis and Economic Evaluation Tools (OAETTs) as tabled by Powerco in their CPP application or similar be published by Transpower. We noted:²¹

"The one failing in that CPP process was the PODs and OAEETs were not published sooner"

We recommend the timing such information is made available to interested parties should be part of the post-decision review.

Deferred capex renewals

16. There was one key topic in the submissions of other parties that needs to be considered as a post-decision review topic, if not actionable by the Commission in its final determination. That topic is who should pay for deferred capex renewals? Four consumers made submissions on this question:

- Allen Davies:

"If Powerco have failed to keep their network up to date and fit for purpose at all times they should not now be imposing increased costs onto the consumers to catch up while more than likely still paying dividends to their shareholders ..."

¹⁷ Contact Energy submission, paragraph 4.15 and 4.16.

¹⁸ MEUG is adopting a wait and see approach on how the just published changes to IM and Information Disclosures for related party transactions. Simultaneous to observing actual experience with the new IM and ID settings we will be monitoring and engaging with various EA workstreams including the work of the Innovation and Participation Advisory Group (IPAG) and the soon to commence MBIE review of electricity pricing that, in the draft terms of reference, includes policy settings related to third party provision of alternatives to traditional poles and wires.

¹⁹ Ibid paragraph 4.16, bullet points.

²⁰ Fonterra submission, paragraph 5.1.

²¹ MEUG to CC, cross-submission on draft Transpower capex IM decision, 16 January 2017, paragraph 7, bullet point 1].

It is now the Commerce Commission's responsibility to see that Powerco get their network up to scratch, but at the same time to not penalise their consumers of today for their past lack of future proofing of their network."

- Grey Power:

"... as noted by the independent assessor,

"increased capex and opex [sought] is required to stabilise asset performance through addressing a rising number of asset defects as assets wear out and to support good practice asset management such as on systems to provide better quality information and analysis, which are expected to reduce expenditure needs in the longer term "They then further note that "...Powerco intends to implement good asset management practices." (my emphasis).

We can only conclude that PowerCo does not currently, and has not in the past, effectively managed their assets in a manner that a prudent and efficient organisation in a competitive market place would be expected to do, in order to avoid the situation that PowerCo now finds itself in. An analysis that we note the Commission shares when it states that "current activities and expenditure is arguably below that associated with prudent practice".

From this we can only assume that PowerCo has deliberately avoided both OPEX and CAPEX expenditure on maintaining assets in order to bolster or maintain shareholder returns.

We submit that to allow the current expenditure now required to be recovered from consumers is contrary to the long term benefit of consumers since it does not reflect the reality that would occur in a competitive market place, and effectively encourages poor management practice in the expectation of a bail out from the public purse in order to meet its obligations."

- Kamada Developments:

"There now seems little doubt many of the network assets are in a run-down state and need urgent attention. What has not been addressed by the Commission is why this is the case and how this has reflected financially for PowerCo. Have PowerCo shareholders been advantaged financially through insufficient maintenance in past years? Did PowerCo purchase run-down assets at a reduced price and now need catch-up maintenance?

The fact network assets are in the condition described is surely an indictment on the Board and management of the day. Questions also arise as to the regulatory regime that has not previously identified the problems PowerCo themselves now seek additional funding to rectify.

These points lead back to our previous question as to why consumers should shoulder these increased costs? Corrective work is obviously required and this cost should be borne by the shareholders not by consumers.

We do not support the Commission's decision to allow increased revenue for PowerCo. Rather the quality monitoring regime should require the remedial work identified to be undertaken urgently at the cost of PowerCo shareholders."

- Terry Wilson:

“... the company, while producing healthy profits and large dividends for many years, has suddenly discovered that it has, over those many years, been neglecting to adequately fund the renewals of its equipment. As with Aurora Energy, Powerco has had the choice of pleasing its shareholders or sustainably funding equipment renewals.

These decisions to divert cash from renewals to dividends may have been made on assumption that you would grant their application for a CPP. If you grant this application other companies will become aware of your feckless decision-making and assume that they can behave in same way as Powerco and Aurora by neglecting their renewals as a way of bypassing the DPP. Any company that pays a dividend should not complain that they can't afford to pay for their renewals capex and they certainly should not expect the Commerce Commission to ensure that they can continue to pay a healthy dividend.

This application from Powerco and the one expected from Aurora are symptoms of the failure of the Commerce Commission to properly monitor the adequacy of renewals capex. You should have been aware of these growing problems over a long period. You need to get this fixed.”

17. The Commission may consider that prior checks on profitability of EDB has set aside any concerns on excess profits to date and a clear line can be drawn excluding consideration of prior profits in deciding who should pay for deferred capex renewal. Therefore, the Commission, and some distributors, may conclude in all cases its customers that must pay for future deferred capex renewal. We disagree that the evidence is clear cut, or at least prior analysis of EDB profitability and the robustness of the regulatory valuation of assets has taken into account the material risks of undeclared or unknown deferred capex renewals. The submissions quoted above illustrate the depth of customer concern on this issue.

A range of demand scenarios is needed

18. MEUG suggests a new topic for the post-decision review is clarity, transparency and consistency of demand forecasts used by CPP applicants. The importance of demand assumptions and the scenario where demand may materially decrease was noted by Grey Power:²²

“... we would query the basis of these objectives, in particular the assumptions of growth in distribution capacity. We consider on the basis of available evidence that the evolution of microgrids and the continuing exponential fall in the cost of battery storage, that distribution networks' need to over build for peak capacity (spikes) will reduce drastically within the lifespan of the proposed CPP.”

19. The submission from Molly Melhuish provided evidence of international experience and views supporting the scenario that demand for traditional lines services may decrease due to rapid early uptake of non-line alternatives:²³

²² Grey Power submission, p1, paragraph 4.

²³ Molly Melhuish submission, p1, paragraph 6.

“The expected “likely ... second and more material price increase, driven by the capex spend during the CPP period, in the transition from the five-year CPP period to the subsequent pricing period” is of great concern. Five years is more than enough time for a genuine change in strategy, from network to non-network solutions.”

20. The widely held view by distributors and the Commission that forecast changes in the demand for line services affect only enhancement and development capex we think needs to be reviewed. In some scenarios, base capex (renewals) may be prone to lower cost non-line substitutes. Such risk of economic stranding may not occur in the immediate next 5-years of a CPP application, but it may and should be considered a risk in a whole-of-economic-life analysis for base capex as well as enhancement and development capex.

Tauranga area & Whangamata projects and reactive maintenance need to be reviewed

21. Contact Energy undertook a detailed analysis of various projects around Tauranga and the Whangamata project. Contact Energy submitted:²⁴

“In your draft determination your response to our submissions highlighting concern over a lack of consideration of third party alternatives is as follows:

“In respect of Powerco's proposed major growth projects, it was clear to us that Powerco's Eastern region (i.e. Tauranga and the Coromandel) is experiencing significant population growth and that demand side responses alone would not be sufficient to meet this increased demand.”

This view on future demand is problematic. Powerco has not tested the market for demand side responses. There is no factual basis of which we are aware, for the view adopted by the Commission.

Regardless of that point, demand side responses do not need to meet 100% of projected future demand – there may be value in deferring capex for one or more years. Logically, therefore, not being able to meet 100% of future demand is not a reason to presumptively exclude from consideration demand side responses.”

22. The above views by Contact Energy complement the analysis by NZIER for MEUG noting Powerco's application had a bias when estimating individual project net benefits by calculating benefits all at peak demand periods when actual benefits will accrue at various times.²⁵ The submissions by Contact Energy and NZIER raise important issues the Commission should address.
23. Contact Energy note their prior submissions on stand-alone diesel generation and diesel plus battery options for the Whangamata project were not addressed or at least insufficient justification given to include draft decisions to approve work in the bottom-up calculation of the CPP revenue cap.²⁶ Helpfully Contact provide more analysis to support its view that up to \$6m of all-of-life costs might be saved for consumers if a diesel generator owned by a third party were used instead of Powerco's proposed battery/diesel option.²⁷

²⁴ Contact Energy submission, paragraphs 2.13 to 2.15.

²⁵ NZIER Submission on Powerco CPP draft decision, 15 December 2017, Section 2.2 pages 5 to 7 describes the Powerco use of peak demand to value the benefit of avoiding lost load. This assumption overestimates the benefit of avoided lost load because nearly all the avoided lost load will not be at the peak demand level. Section 2.2.1 pages 7 to 9 shows the effect on estimated project net benefits of based on more realistic assumptions about the level of the avoided lost load.

²⁶ Ibid, paragraph 3.3.

²⁷ Ibid paragraphs 3.5 to 3.8.

24. In relation to reactive maintenance Fonterra noted:²⁸

“The draft decision paper does not propose any opex reduction initiatives.

The 7% increase in reactive maintenance as appose[d] to a reduction over the CPP is a disappointment as it would be prudently expected that the significant increase in new equipment capex as well as a 33% increase in preventative and corrective maintenance would deliver at worst the same annual spend if not better performance. Failure mode analysis would assist in assuring that forecast expenditure will resolve the root cause of the failures and stop future repeat events. Fonterra recommends that the CC consider such analysis and for PowerCo to address the root cause of failures.

In paragraph 445 it is noted that reactive maintenance will reduce resulting in a cost reduction across future pricing periods, but our view is that those savings should be reflected in this CPP determination. Fonterra recommends that the CC consider reflecting these savings during this period of the price path.”

25. Fonterra’s query on why customers are being asked to pay an increase in reactive maintenance when, given the material increase in capex and preventative and corrective maintenance, a reduction in reactive maintenance would have been expected is a reasonable common-sense question. MEUG recommend the Commission reconsider the draft given the material, that is 7% increase, proposed for reactive maintenance.

Concerns on quality of PODs and OAEETs and why sum of those net benefits is not equivalent to an estimate of the net benefit for the application as a whole

26. Given the preceding section on the submissions of Contact Energy and Fonterra on the Tauranga area projects, Whangamata projects and reactive maintenance, MEUG notes:

- While it has been useful to have the PODs and OAEETs published, albeit late in the process, there are concerns on the quality of those analysis of options; and
- The PODs and OAEETs are estimates of CBA for specific projects. As noted we and other submitters have doubts on the robustness of assumptions used to value lost load and define alternatives used in the analysis.

Setting that aside we wonder if the draft decision that a CBA of the application as a whole is not needed relies on the view that CBA have been undertaken for major projects in the PODs and OAEETs and therefore a decision can rely on the sum of those project CBA to support decisions. MEUG believes there are problems with that approach if relied on by the Commission. In particular each project CBA would have to have a weighting put on the relative quality effect for that project relative to all projects because enterprise wide quality metrics are used in the final determination. This problem would be addressed by having disaggregated quality and price specifications such as using more granular regions and voltage classes.

²⁸ Fonterra submission, paragraphs 2.1 to 2.3.

The Network evolution proposal

27. MEUG did not submit on the draft decision that the \$18m proposed expenditure for network evolution not be included in the bottom-up estimate of costs to calculate the aggregate CPP revenue cap because we agreed with that view in our prior submission on Issues to Explore and Consider.²⁹
28. To be clear we agree the logic in the draft decision to decline the \$18m network evolution proposal is sufficient; but not necessarily comprehensive. The reason for the latter caveat being the draft decision did not explicitly consider our September submissions that developing more cost-reflective prices would be a better use of resources to enable efficient adoption of emerging technologies by Powerco, suppliers to Powerco, customers and their agents.³⁰ We have been left not knowing if the Commission agree or disagree with that submission.
29. Powerco submissions on the draft decision to reject the network evolution proposal:³¹
- Did not consider the important role, in our view as mentioned in paragraph 28 above, of adopting cost-reflective prices to facilitate efficient innovation across the supply chain. We think pricing is an important part of the joined-up strategy considered in the draft decision and discussed in the next sub-paragraph.
 - Failed to bridge the gap in the CPP application identified in the draft decision:³²

“However, we consider Powerco needs to provide more tangible justification underpinning how consumers are likely to benefit from the specific projects it is proposing to undertake. In particular, we consider that:

 - Powerco has not developed a joined-up network evolution strategy that identifies how and where all of the projects fit together or why they are needed now;
 - The benefits to consumers, and when these can be expected, are not sufficiently identified or articulated in Powerco's individual business cases for each of the network evolution projects it proposes; and
 - The CPP proposal appears to rely on the assumption that consumers are the only funding source for this programme. However, the programme is likely to offer benefits to stakeholders other than consumers and we would expect to see those stakeholders also contribute to the cost.”

Powerco submissions provided no joined-up strategy that included identifying benefits to customers, generators, ancillary service providers and non-network solution providers and how those beneficiaries might contribute to Network evolution research and trial costs.³³ Therefore, MEUG sees no reasons in the Powerco submission to alter the draft decision.

²⁹ MEUG to CC, Powerco CPP proposal, 22 September 2017, Part 2.5 Network evolution capex, paragraphs 2.32 to 2.34.

³⁰ Ibid, paragraph 2.34.

³¹ Powerco submission, paragraphs 20 to 27 and report by Allan Miller Consulting Ltd

³² Draft decision, paragraph 298.

³³ For example, the report by Allan Miller Consulting was not a joined-up strategy. That report considered overseas experience in the sub-activities proposed by Powerco for Network evolution. Overseas experience can be useful though often can have limited relevance give most overseas countries either have a greater reliance on subsidies and very low rates of renewables in their supply portfolio that skew policy frameworks.

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30. Aurora Energy submission on network evolution mainly covered the debate covered in the separate related party transactions topic and therefore isn't relevant to the CPP decision.³⁴ The last paragraph of Aurora's section on network evolution stated:

"We would urge the Commission to reconsider its position on network evolution expenditure. Our view is that Powerco's proposal for modest network evolution expenditure provides a relatively low risk (for consumers and Powerco) opportunity to test and develop new network technologies and to evaluate how consumers' use of emerging technology will affect and influence the provision of network services into the future."

31. MEUG does not consider \$18m or capex over 5-years to be modest. Neither is the proposed work clearly low risk to Powerco and its customers. If it were low risk why wouldn't Powerco undertake the work itself by substituting for other "approved" work that was used in determining the CPP revenue cap knowing it could bank a return with a 67th percentile uplift on expected risk? From a customer perspective, there is absolute certainty they will bear all costs if "approved." However, as the draft decision notes, it's unclear if customers collectively will benefit from this research and trial work or whether the distribution of benefits across customers will align with allocation of costs.
32. Finally, continuing a theme of our views on network evolution, Aurora fail to mention the importance, in our view, of cost-reflective prices to achieve what Aurora view as a key policy "... to test and develop new network technologies and to evaluate how consumers' use of emerging technology will affect and influence the provision of network services into the future."

Yours sincerely



Ralph Matthes
Executive Director

³⁴ Aurora Energy submission, pp2-3.

Cross-submission on submissions to Powerco's application for a Customised Price Path¹
Molly Melhuish, 18 January 2018 ¹melhuish@xtra.co.nz 04 568 4873, 027 230 5911

1. **Summary:** Residential consumers' submissions to Powerco's CPP application reject the company's request to invest \$1.32 billion on assets over the next five years, about \$0.39 billion more than the previous five years. Consumers don't want to pay more to expand assets which boost shareholder value on the pretext of increasing reliability. Significant numbers are investing in rooftop solar, and some in batteries, to reduce their power bills and provide their own backup power. Consumers who want some of the action must not be blocked by a monopolist's growth strategy. There is widespread and increasing international precedent for regulators to require alternatives to network expansion to be facilitated when these are more cost-effective. I therefore believe the Commerce Commission should reject the Powerco CPP application, and require it revert to the default price path until processes are developed for generation and demand-side response to compete on their merits with network asset expansion.
2. I thank MEUG for its consistent support of consumer input to Commerce Commission processes.
3. Powerco is the first network company to propose a Customised Price Path for network expansion to meet claimed growing demand and to remediate previous maintenance neglect. It is thus a critical test case. An unprecedented proportion of consumer submissions demonstrates the extent of consumer concern.

4. Consumer concerns expressed in submissions

- 4.1. Above all consumers want no further price increases:
 - 4.1.1. Grey Power: "We note with concern that excess winter mortality amongst the elderly is directly correlated with the ability to heat homes adequately".
 - 4.1.2. [I add that cold damp houses have even longer lasting impacts on households with babies – the first 1000 days of an infant's life are critical.]
 - 4.1.3. A second larger price increase foreshadowed by Powerco is vehemently opposed by Grey Power: 'we are vehemently opposed to the "likely ... second and more material price increase"'
- 4.2. Powerco wants to further improve reliability as measured by the standard quality indicators (SAIFI and SAIDI), despite the fact that performance is already improving rather than declining.
 - 4.2.1. I agree with MEUG: "The Commission has not provided a strong or clear rationale for giving so little weight to consumers' unwillingness to pay more in exchange for improved future reliability."
- 4.3. Consumers don't want increased reliability if that leads to price increases.
 - 4.3.1. Duigan's submission notes: "Powerco states 'Our customers advise us they do not expect improved reliability where this comes at a cost (other than in poor performing pockets of the network) [yet] Powerco assert that "Our proposed CPP investments reflect [customers' preference], by seeking to arrest

deteriorating asset performance and stabilise SAIDI and SAIFI at present levels.’ This contradicts the Verifier’s advice to the Commission: “the historical data shows a distinct trend of improving reliability.”

- 4.4. Powerco’s motive appears to be to increase its asset base and therefore its shareholder returns:
 - 4.4.1. Wilson: “the company, while producing healthy profits and large dividends for many years, has suddenly discovered that it has, over those many years, been neglecting to adequately fund the renewals of its equipment ... Powerco has had the choice of pleasing its shareholders or sustainably funding equipment renewals.”
 - 4.4.2. Davies: “Powerco have failed to keep their network up to date and fit for purpose at all times they should not now be imposing increased costs onto the consumers to catch up while more than likely still paying dividends to their shareholders.”
 - 4.4.3. Grey Power: “we can only assume that PowerCo has deliberately avoided both OPEX and CAPEX expenditure on maintaining assets in order to bolster or maintain shareholder returns.”
- 4.5. The proposed increase in asset base is not justified by demand forecasts: – I agree with Contact: “This view on future demand is problematic. Powerco has not tested the market for demand side responses.”
- 4.6. More appropriate network pricing will change consumer behaviour and enable more cost-effective asset management. Davies: “Grey Power believe it is the pricing imposed by the Network companies that needs investigation and therefore the Commerce Commission and the methodology used in approving proposals such as Powerco’s CPP.”
- 4.7. New technology is driving change and changing networks from monopolies to competitors.
 - 4.7.1. Grey Power: “We consider on the basis of available evidence that the evolution of microgrids and the continuing exponential fall in the cost of battery storage, that distribution networks’ need to over build for peak capacity (spikes) will reduce drastically within the lifespan of the proposed CPP.”
- 4.8. Network Evolution funding:
 - 4.8.1. I agree with Contact’s assessment: “The task we believe lies in front of networks is looking to transition to intelligent, dynamic networks that can act as a platform for services. Hence we support network evolution funding. . . . Distributed generation assets have a role to play in providing wholesale, distribution and transmission services. Costs to consumers can be minimised when distributed generation assets are optimally used, rather than only providing a service to one party. For this to occur, the assets must be owned by non-regulated entities.”
 - 4.8.2. My submission said much the same: “I consider it essential for non-network solutions to be developed especially to improve reliability. Note that Vector is evolving its network as part of its normal business planned expenditure, as it should be.”

5. I agree with Contact's proposed specific remedy –

- 5.1. Contact seeks a new process involving external consultation: “The Commission’s determination on this CPP gives you an opportunity to promote the development and implementation of an effective investment decision-making template process. This template can and should ensure third party alternatives are rigorously tested . . . Any process must be project specific, based on consultation at the appropriate time for each of the major projects as part of Powerco's investment decision process for that major project.”
- 5.2. “A request for proposals is distributed seeking non-network options. [these] matters are the critical things that serve the purpose of Part 4, as they ensure Powerco's project options analysis results in optimal investment outcomes for consumers. If options are not generated in the first instance, there is little hope that they will be considered at any later stage.”
- 5.3. “... The analysis we have been able to carry out on the Tauranga and Whangamata major projects demonstrates oversights in the Commission and Powerco’s own project investment analysis. These are oversights which, left unchanged, will result in outcomes that will see consumers paying more for the network service than necessary. These oversights can be overcome through project-specific, external consultation processes to consider third party network support alternatives, and subsequent external verification of investment analysis and decisions through information disclosure such as the PODs and OAEETs.”

6. Must avoid ratcheting up of asset values

- 6.1. I agree with Grey Power’s recognition of the circular ratcheting up of asset values and allowed returns on investment: “The practice of assessing a ‘reasonable’ ROI on the asset value of a monopoly supplier is tantamount to the encouragement of rent seeking. . . .To be explicit, in this case PowerCo seeks to recover the cost from consumers of bringing its’ asset base up to current standards of quality and resilience, and then argues that the out years cost to consumers of service delivery should be based on that re-valued asset base. We consider this proposed practice not only anti-competitive but directly exploitative and urge the Commission to reject this part of the proposal outright.”

7. My submission went further and considered the purposes of regulation.

- 7.1. Grey Power notes: “the purpose of Part 4 of the Commerce Act (the Act) – to promote the long-term benefit of consumers.” and feels “that the draft determination regarding price increases fails to meet this objective.”
- 7.2. My submission noted that the purpose statement of the 2010 Electricity Industry Act removed the previous purposes of “fair” and “sustainable”. Less obvious is that the EA’s Interpretation of its Statutory Objective² confirms that condoning monopoly profits are taken to be part of the long-term benefits to consumers. This affects Commerce Commission decisions as much as Electricity Authority ones.

- 7.3. I gave two international sources describing regulatory developments for electricity that respond to the same technology challenges now faced by New Zealand – the Rocky Mountain Institute, and the Regulatory Assistance Project.³
 - 7.4. Submissions by MEUG, NZIER and Duigan gave emphasis to the need for more rigorous cost-benefit analysis to assure benefits to consumers.
 - 7.5. I consider, instead, that the Code Amendment Principles⁴ lead to an exaggerated focus on cost-benefit analysis. Because of the condoning of monopoly profits, the technocratic regulatory procedures will serve the interests of companies rather than consumers.
 - 7.6. We now need to reassess how we should define and describe “long term benefits to consumers.” This is a political not a regulatory task, one which can and should be addressed by the new government.
8. **It was the regulatory lawyer Scott Hempling, invited to New Zealand by the Electricity Authority in 2013, who simply nailed the task facing New Zealand.** Quoting from his talk, “Regulation and Politics: How Well Do We Manage the Mix?”⁵
- 8.1. “Politics comes in two flavors. Public interest politics refers to the need to make tradeoffs among meritorious but conflicting goals. Private interest politics refers to the pressures from forces seeking benefits for themselves. As applied to regulation's mission, these two forms of politics have opposite effects: one supports, the other undermines. Understanding the distinction is essential to effective regulation.”
 - 8.2. He gives examples of public interest language disguising private interest motives. His first is: “Deregulation” – The term is hopelessly ambiguous. To the extent it means “authorizing competition,” “authorized” competition is not “effective” competition. After a century of monopoly, we need regulation to check the new suppliers' fitness, to detect and penalize fraud, and to prevent those who control the transmission highways from blocking their competitors. If we fail to do these things, we will end up with “regulation”: regulation of the market by the incumbent to protect its monopoly position, rather than commission regulation of the monopoly to protect the consumer.’
 - 8.3. He equally cautions against yielding to consumer pressure: “Rates must reflect costs—costs caused and costs incurred. To make affordability a factor, to relieve customers of the costs they cause, is to jigger the numbers—lowering rates for the unfortunate by raising rates for others, compromising cost causation to redistribute wealth. It is like taxation, with this difference: With taxation, citizens can retire representatives whose votes offend; but with utility service, captive customers are stuck with the rates regulators set.”
 - 8.4. He directly addresses regulatory capture: ““Capture” is an extreme form of persuasion. To achieve persuasion is to obtain what the persuader wants ... based on the persuader's identity rather than an argument's merits ... Capture is enabled by those who ignore it, tolerate it, accept it or even encourage it: legislators who underfund the commission or restrict its authority, governors who appoint commissioners

unprepared for the job, stakeholders who treat proceedings like win–loss contests rather than building blocks in a policy edifice. These actions and inactions feed a forest where private interest trees grow tall, while the public's needs stay small.”

9. In his address to Commerce Commission international conference shortly afterwards,⁶ Hempling gave specific examples of US regulation that are relevant to NZ network regulation. He noted the statutory requirements of the US Federal Energy Regulatory Commission (FERC) “that the rates and charges for transmission be "just and reasonable," and that transmission providers not "make or grant any undue preference or advantage to any person or subject any person to any undue prejudice or disadvantage...." He said that this implies, amongst other things -
 - 9.1. “Transmission providers "have an affirmative obligation ... [to] evaluate alternatives that may meet the needs of the region more efficiently or cost-effectively [than transmission solutions]."
 - 9.2. In the regional processes there must be "comparable consideration of transmission and non-transmission alternatives.... [T]ransmission providers are required to identify how they will evaluate and select from competing solutions and resources such that all types of resources are considered on a comparable basis."
 - 9.3. “... FERC has ordered regional transmission organizations to give demand response bids access and pricing treatment comparable to that given generators, including receiving compensation equal to the locational marginal price applicable at the place and time that demand response is bid (provided the demand response offer satisfies FERC's "cost-effectiveness" test).”
 - 9.4. “... FERC has stated that unless demand response can compete in organized wholesale generation markets, the prices produced by those markets will not satisfy the statutory "just and reasonable" standard.”
10. I consider that the Contact Energy submission on the Powerco CPP application reflects the same considerations –
 - 10.1. “We think third party alternatives must be considered by Powerco and processes should enable this.”
 - 10.2. “A requirement to evaluate other load control solutions will require more than Powerco's internal analysis. Powerco can only put itself in a position to evaluate the most economical solution by engaging with the market for third party network support. We ask that your final determination make this point more explicit.”
 - 10.3. “...Diesel generation and battery storage are contestable assets and there is nothing preventing Powerco utilising regulated opex to procure services from a competitive market. It seems highly likely that this approach will reduce the cost of the regulated network service for Powerco consumers, by more efficiently optimising the use of generation assets.
 - 10.4. And I noted before that Contact’s submission says: “Powerco has not tested the market for demand side responses.”

11. In the U.S., transmission planning is entrusted in most large regions to separate Regional Transmission Organisations, with boards nominated by the separate investor-owned utilities (most of them privately owned).
 - 11.1. “Transmission providers must have in place "processes that provide all stakeholders the opportunity to provide input into what they believe are transmission needs driven by Public Policy Requirements, rather than the public utility transmission provider planning only for its own needs or the needs of its native load customers."
 - 11.2. Transmission providers "have an affirmative obligation ... [to] evaluate alternatives that may meet the needs of the region more efficiently or cost-effectively [than transmission solutions]."
12. Based on the U.S. examples, I consider that Contact Energy’s proposals regarding Powerco’s planning process should be supported by an “affirmative obligation” to consider not only generation alternatives (to which Contact would undoubtedly offer competing bids), but also customer-owned PV generation and batteries. These, as Contact notes, can do far more than simply augment reliability when called on by Powerco – it would also enable consumers to play the wholesale energy market, and perhaps more important, augment for themselves the reliability of the inevitably less-than-perfect bulk electricity supply system.
13. The Commerce Commission should therefore reject the Powerco CPP application, and require it revert to the default price path until processes are developed for generation and demand-side response to compete on their merits with network asset expansion

¹ Draft decision and submissions are at <http://www.comcom.govt.nz/regulated-industries/electricity/cpp/cpp-proposals-and-decisions/powercocpp/powerco-customised-price-quality-path-draft-decision/>

² <https://www.ea.govt.nz/dmsdocument/9494> sections A5, A6, A7, see also A24, A25

³ “Smart Rate Design for a Smart Future”, by Jim Lazar and Wilson Gonzalez , Regulatory Assistance Project July 2015: www.raponline.org/document/download/id/7680

https://rmi.org/wp-content/uploads/2017/05/RMI_Document_Repository_Public-Reperts_2014-26_eLab-RateDesignfortheDistributionEdge-ExecSum-highres.pdf

https://www.rmi.org/news/blog_2016_05_18_the_business_value_of_demand_flexibility/

⁴ <https://www.ea.govt.nz/dmsdocument/14243> section 2.5, Principles 2 and 3

⁵ <https://www.ea.govt.nz/dmsdocument/15939>

⁶ <https://www.comcom.govt.nz/dmsdocument/11556>

Cross-submission by Pat Duignan re Commission Draft Decision on Powerco CPP Proposal

1. I am making this personal cross-submission regarding the draft decision on Powerco's CPP proposal to customise its price and quality standards because the issues involved are significant matters of principle.¹ I contributed to the expert report by TDB Advisory to the Electricity Retailers Association of New Zealand on the Commission's Issues paper regarding the Powerco proposal, but this submission is not commissioned by ERANZ or any other party.
2. As emphasised in my submission, the Commission's decision on Powerco's CPP proposal is exceptionally important because it will set a precedent as the first CPP proposal justifying a higher revenue cap as necessary to stabilise the reliability of the network.
3. Powerco's CPP application stated *"Our customers advise us they do not expect improved reliability where this comes at a cost (other than in poor performing pockets of the network). However, they would not accept deteriorating performance."*² The independent Verifier confirms *"Customers have clearly said that they do not want to pay for improved reliability"*³.
4. The application asserted that *"Our proposed CPP investments reflect [customers' preference], by seeking to arrest deteriorating asset performance and stabilise SAIDI and SAIFI at present levels."*⁴
5. The Verifier, however, concluded that the frequency and duration of outages (SAIFI and SAIDI) would be reduced by the proposed increase in expenditure (of over 40% compared to the previous 5 years). The Commission agreed with the Verifier's assessment and the draft decision required SAIFI and SAIDI reductions of 5% and 10% respectively over the CPP period. Furthermore, Powerco's own submission argues that observable network improvements will be lagged. That implies the increase in expenditure would result in additional improvements in reliability beyond the CPP period.
6. Powerco now accepts, in its submission, that the 40% increase in expenditure in the draft decision should be compatible with a reduction in SAIDI and SAIFI. The submission proposes the targets for SAIDI and SAIFI reductions by the end of the CPP period be only half those proposed by the Commission reflecting in part a two-year lag before expenditure increases result in reliability improvements.⁵ I applaud Powerco's candour in changing its description of the reliability outcome.
7. Thus Powerco, as well as the Commission, now acknowledge that the expenditure allowed in the draft decision involves customers paying for improved reliability, contrary to customers' preferences as assessed by the Verifier.
8. The draft decision indicates that the Commission believes it is unable to reduce expenditure to a level that would reflect customers' preference not to pay for improved reliability, because it is too difficult to determine what lower level of expenditure is required to maintain safety standards as opposed to reliability. Powerco's submission's acceptance that the expenditure

¹ As a matter of disclosure, I record I was a member of the Commission from mid-2009 to December 2015.

² Powerco *"Customised Price-Quality Path – Main Proposal"* (12 June 2017), page 208.

³ Verifier's report, *"Powerco's Customised Price Path Application"*, (12 June 2017), section 2.2.5 page 29

⁴ Powerco *"Customised Price-Quality Path – Main Proposal"* (12 June 2017), page 208.

⁵ Powerco also propose that the required SAIFI and SAIDI reductions affect revenue but not legal compliance.

level in the draft decision involves customers paying for improved reliability, means it is entirely reasonable for the Commission to ask Powerco to assess what reduction in expenditure would be compatible with its customers' preferences not to pay for reliability improvements while maintaining safety standards.⁶

9. Aurora's submission is highly relevant in this situation. Aurora explain "*the iterative process has meant that Powerco has been able to provide the Commission with additional and new information that the Verifier did not have available when it was compiling its report. The lesson we take from this, is that it important that the CPP applicant has multiple opportunities to respond to questions about aspects of its proposal, and is able to provide additional evidence and information in justification.*"
10. I agree with Aurora that Powerco having the opportunity to respond to Commission enquiries is essential to the CPP determination process. That of course cuts both ways. The Commission is entitled to ask questions. Now that the applicant, the Verifier and the Commission are all agreed that the level of expenditure in the draft decision involves customers paying for improved reliability, the Commission can ask Powerco how the level can be adjusted to conform to customers' preferences.
11. I therefore cross-submit that the Commission's response to Powerco's submission's new view regarding reliability improvements together with Aurora's submission regarding dialogue and adjustments during the CPP process will create a precedent for future CPP determinations. Aurora clearly considers the dialogue to date has been to Powerco's advantage. The issue now at stake is whether the Commission will continue that dialogue to obtain answers that would enable modification of the draft decision to better reflect customers preferences. The draft decision makes no reference to any discussion between the Commission and Powerco regarding the reliability outcomes of the expenditure level or modification of the expenditure level to reflect customers preferences regarding reliability. This may reflect Powerco not knowing the Commission's view until the draft decision was published.
12. Powerco's submission responds to the Commission's draft decision by arguing that the reliability improvement would lag the expenditure and also arguing against improvements being legally required as opposed to the outcome affecting Powerco's revenue. The submission does not mention the option of a reducing the expenditure level to be consistent with an unchanged reliability outcome. Having received the submission, the logical response is for the Commission to ask Powerco about that option.
13. Aurora's assessment that the dialogue between Powerco and the Commission has been fruitful can be taken as a tribute to the quality of Powerco's responses to Commission questions. This is a good basis for the Commission to now ask the question of how the expenditure level can be modified in the expectation that Powerco will provide quality responses to that question. It would be disappointing if the Commission dialogue with Powerco on this issue was less fruitful.
14. The legal framework for customising a price quality path is relevant here since it provides that any appeal would be on a closed record basis. The current situation is that in the draft decision the Commission indicated it believed it did not have sufficient information to adjust the expenditure level to conform to customers' preferences. As described above, Powerco's submission has not provided the information that the Commission would need to adjust the

⁶ The Verifier's report in effect anticipated the need for such a dialogue with Powerco, recommending, on page 29, "*We do, however, consider that the Commission should focus on the relationship between Powerco's proposed expenditure forecasts and the impact on reliability when undertaking its own assessment of the information.*"

expenditure level. If the Commission does not ask the question of Powerco then that would in practice compromise the effectiveness of the Part 4 provision for customer representatives to obtain a merits review of the CPP decision, if they so wish.

15. In section 3 of its submission, Aurora lists some aspects in which the Powerco CPP will set precedents. The first aspect is providing confidence that 'reasonable investor expectations' will be satisfied which the submission suggests directly flows into incentives to invest and ensuring regulated suppliers provide services at a quality that reflects consumer demands.
16. Powerco's submission demonstrates an enthusiasm to undertake capital expenditure as illustrated by the fact that Powerco is seeking to undertake expenditure, specifically capital expenditure that, on its own admission, is greater than is needed to maintain reliability. As discussed in my submission, this indicates that the Commission's WACC IM has achieved the objective of incentivising investment.
17. Aurora's submission notes the main component of the TDB Advisory submission on the Issues Paper was advocacy of the application of CBA to the CPP determination and service quality standards. Both the TDB Advisory submission and my submission on the draft decision explain that the Commission must determine what are "appropriate service standards" before the expenditure objective can be applied. No one has yet offered any alternative basis for this decision other than consideration of the cost versus benefit of possible service standards. (As noted in my submission, in some cases the Commission may be required to adopt standards set by other government agencies in which cases the other agencies are responsible for the cost benefit analysis.)
18. The Aurora submission suggests advocacy of the use of cost-benefit analysis would be a " 'mid-play' changing of the 'rules of the game' ". This trivialises the issue.⁷ Thoughtful investors would recognise that there is no reason to see the issue as involving a conflict between investors and consumers. There is no game to be won by investors at the expense of consumers. This issue differs from other components of regulation where investor and consumer interests do diverge. Investors will be as well off if service standards are lower with investment being correspondingly lower.⁸ Such investors would recognise that the stability of the regulatory framework depends on respecting customers' preferences or, where preferences are not well informed, ensuring that any increase in quality, i.e. improvement in reliability, can be demonstrated to be beneficial to consumers.
19. I acknowledge that it is inconvenient that the need to determine what are appropriate service standards before testing whether the expenditure objective is met was not addressed explicitly in the CPP IM. (I have to accept some responsibility for that.) That is however the reality. The adoption of the historical outcome-based DPP quality standards was the solution suggested by the Verifier. The assertion that the expenditure level in the draft decision meets the expenditure test could be interpreted as implying the Commission is determining that the resulting higher

⁷ The issue of the relationship between the level of investment and reliability outcomes was highlighted in the Verifier's report which recommended, on page 20, as a "Key Issue": "*The Commission may wish to undertake its own analysis of the likely reliability benefits arising from the proposed capex and opex programs, or engage with Powerco to have its models refined.*" Thus the need for detailed analysis - which would provide some of the information that the Commission lacks and facilitate a cost benefit analysis - was identified as a key issue early in the CPP process. Thus Powerco has been on notice for a long time that this information is needed.

⁸ If the WACC uplift has resulted in excess returns to investment, lower service standards and lower investment might involve foregoing some excess returns but it would be shortsighted for lines companies to over invest to game the provision of the WACC uplift. If consumers perceived that lines companies were "gold plating" that could be expected to provoke a reaction detrimental to lines companies (and to the regulator's reputation) as seems to be occurring in the UK and Australia.

reliability is the appropriate service standard. Perhaps the Commission will set out a definitive view on this issue in its final decision.

20. I submit that the inconvenience of undertaking a cost-benefit analysis is outweighed by the benefits for the lines business concerned, independent of whether such an analysis is required by the IM. Customer satisfaction is valuable even for a monopoly. When Powerco comes to put up its prices after the CPP is approved, it would be in a better position to retain the goodwill of its customers if it had available a cost-benefit analysis that demonstrated the increase in reliability was worth the cost for consumers on reasonable assumptions. Thus I submit it would be in the interests of both the Commission and Powerco for the two to work together to publish a cost-benefit analysis. I recognise that this might require a brief further consultation but the exercise could be completed expeditiously if all involved devoted appropriate resources to the task.
21. Obviously, the timeframe for a final decision on the Powerco application is tight. As a last resort, it would be reasonable for the Commission to ask Powerco to agree to an extension of the timeframe, but that could be avoided if Powerco applied sufficient resources to providing the necessary information to the Commission.
22. Aurora's submission could be read as indicating opposition to inclusion of a cost benefit analysis in the CPP application it is understood to be currently preparing. I suggest that in their own interest, CPP applicants should follow the example set by Wellington Electricity and undertake a cost-benefit analysis as a component of their proposals.
23. It is relevant that Aurora is owned, via a holding company, by Dunedin Council. Thus there is significant overlap between its customers and its ultimate owners, Dunedin citizens. That is an additional reason for Aurora's Board to want to confirm its CPP proposal is beneficial for customers by undertaking a cost-benefit analysis despite the additional work load for Aurora's management and those preparing the application.



Pat Duignan
19 January 2018



Submission on

**The Commerce Commission 'Powerco Customised
Price-quality Path' Draft Decision' - Cross-
submission**

Date: 19 January 2018

Powerco cross-submission on submissions to the Commerce Commissions Powerco CPP Draft Decision

1. This is Powerco's cross-submission on submissions to the Commerce Commission's (Commission) draft decision¹ on Powerco's, Customised Price-quality Path (CPP) proposal published on 18 December 2017.
2. Powerco's contact person for this submission is:

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3. No part of this submission is confidential.
4. Thank you for the opportunity to make a cross-submission on the draft decision submissions of the Powerco's CPP proposal. We appreciate the Commission's ongoing engagement with stakeholders and thorough consideration of our CPP application.
5. We consider the number and quality of submissions to the draft decision by interested parties is positive and essential in ensuring CPP applications are tested robustly and the final decision meets the expenditure objectives. We are also encouraged by the continued engagement by interested parties and the interest shown on a number of key areas of our proposal.
6. The following submission responds to a number of points raised by submitters to the draft decision where we consider further clarification and explanation will benefit submitters understanding of issues.
7. The application process has been ongoing over the last two years and the analysis and thinking underpinning the expenditure forecasts and outcomes have been subject to robust and detailed challenge by multiple independent parties. The result of this and the final proposal has resulted in significant material being produced and discussions held.
8. Naturally the volume of material produced over a period of time can result in difficulties for interested parties to have a full awareness and knowledge of information relating to individual topics. This is magnified by the relationships and complexity of the areas covered by a CPP application. As a consequence it appears that a number of submission points to the draft decision are a result of conclusions drawn from incomplete knowledge of a topic.
9. We have therefore kept our cross submission focused on those parts of submissions to the draft decision that we believe require priority consideration prior to the final determination and have been concluded as a result of a partial

¹ Published on 16 November 2017

view of related information.

A Price – Quality trade-off

10. Several submissions discussed the price-quality trade-off suggestions of the draft decision. In the decision, the Commission has set an unplanned quality path that targets improved quality over time, as opposed to our proposal, which essentially is based on reliability remaining at historical levels. Submitters questioned why, in the absence of a customer preference for improved reliability, the Commission has not rather targeted decreased investment, while maintaining current unplanned quality levels in the CPP period.
11. The development of our proposal underwent significant internal and external scrutiny that included public consultation and review by an independent verifier. During this process customer expectations were challenged and confirmed, expenditure was tested to be justified and efficient for the work we proposed, and the impact on anticipated network reliability was also assessed. The overall result of this process was what we believe to be a reasonable price-quality balance, achieved in line with customer expectations, as proposed on our submission of 12 June 2017.
12. In its review of our proposals, the verifier noted that they believe Powerco's network reliability to be improving over time and that the additional expenditure proposed would accelerate this. The Commission concurred with this view. As we have maintained in our submissions, we fundamentally disagree with this conclusion, not only with the assessment of a historically improving reliability position, but also from an understanding of how the deteriorating (ageing) asset base is increasingly putting network performance under pressure.
13. We do not believe that any new evidence has been brought to light that materially alters our view, or the price-quality trade-off we proposed. We stand by our CPP application and remain certain that our proposed expenditure plans are essential to maintain reliability at existing levels, as expected by our customers, but would not fundamentally improve network reliability.
14. Importantly, while the bulk of our proposed additional expenditure will be targeted at asset renewal, a large part is also addressing increased electricity demand or to ensure our network remains safe for the public and our staff. Reliability benefits from these categories of expenditure would be of a secondary nature only.
15. Due to its importance, the price-quality trade-off challenge was considered in-depth in the development of our final proposal. Customers gave us a clear mandate to manage the network to a safe and resilient standard while maintaining the level of unplanned quality they historically experienced. We submitted a proposal that contained efficient expenditure to achieve these customer led goals while ensuring the safety of the network. While some reliability improvements are likely to result from the proposed activities, this

was not a primary driver of the CPP application.

16. In the draft decision the Commission reduced expenditure to 96% of what we proposed. This reduction was predominantly in areas that potentially have limited short term impact on quality levels or network safety, mainly in Network Evolution and the Tauranga ripple relay replacement. Accordingly, we believe that the expenditure approved in the draft decision is still appropriate to stabilise Powerco's network performance, maintaining reliability at historical levels and keeping the network safe.
17. Additionally however, the Commission proposed a 10% (SAIDI) and 5% (SAIFI) reduction in targets. While we do not consider that these targets are feasible to achieve within the CPP period, as noted in our submission, we appreciate the Commission's intent to ensure that customers benefit more immediately from the increased network investment.
18. We do not agree with the view expressed in submissions that the Commission's proposed quality improvement could be negated, in exchange for a reduced level of expenditure. Not only do we, as noted above, not believe that the required reliability improvement is likely to be achieved, but we also disagree with the premise that there is a simple, direct relationship between network reliability and investment where the one could easily be offset for the other.² Such a direct trade-off is not practically achievable, especially in the short to medium term.
19. In our submission to the draft determination, we suggested that if reliability targets are to be lowered, these targets should be split between the financial incentive and compliance requirements. This would provide a strong incentive to target reliability improvements in the CPP period, but would not put us in a position where we would be in breach of regulatory quality requirements arising from a situation over which we have very limited control. Importantly it would then also avoid overly strong incentives to change the proposed investment plan to avoid such a breach (for example, stopping work in rural areas in preference of urban areas, where SAIDI/SAIFI gains are more available).
20. We therefore strongly urge the Commission to consider the revised quality proposals included in our submission on the draft determination.

B Network Evolution

21. We note the support for our Network Evolution initiatives from submissions by Contact and Aurora Energy. Contact's submission in particular highlights the need for networks to understand new technology, and the benefits they can provide to customers.

² While there is clearly a relationship between network expenditure and supply quality, this relationship is multi-factorial and complex, and only evident over time. In addition, short-term fluctuations in network reliability as caused by weather and other external events, generally far outweigh the short-term impact of incremental network investments.

22. As a leader in the sector, and having the scale to trial and drive the uptake of new technologies, we are committed to forwarding the benefits of emerging technology in New Zealand. As such we continue to stand behind the proposed programme of initiatives detailed in our CPP proposal. We also note again the international evidence on the major benefits being realised from network innovation, as discussed in the report from Allan Miller Consulting³ that we provided with our submission on the draft decision.
23. All these projects are ultimately required in order to optimise future investments that would be required to improve our service offerings to consumers, or to keep network operation stable. International evidence overwhelmingly shows that innovative solutions are substantially more efficient at achieving this, than sticking to traditional network investments to achieve the same. The development of innovative solutions however requires us to pilot, trial and test new technologies, and to challenge the status quo in a controlled manner. Our customers supported our Network Evolution programme in our CPP consultation by requesting that we continually innovate⁴.
24. It is therefore disappointing that the Commission do not appear to accept the benefits that the proposed network evolution programme is expected to offer our consumers. In reconsidering this, it may be worth viewing the overall proposed programme in two broad groups (accepting that there is considerable overlap in the benefits from both categories).
- a. Firstly, some of the proposed activities are targeted at better understanding newly available network based and distribution edge technology that would expand the benefits the network can provide to customers. The benefits of these projects to customers would be realised in a relatively short term window.
 - b. The second group relates more to technologies that will enhance the operation of the network, and ensure its ongoing stable and safe operation as new grid edge devices, particularly those generating electricity at highly variable levels, are connected at much higher numbers, or where customers' demand patterns change materially.
25. We recognise that the benefits of the second category of investment would be less immediate to customers, and while we consider them an integral part of our networks development, there is less certainty around benefit realisation timing.
26. Appendix B contains a list of Network Evolution projects we proposed in our CPP proposal. This list has been categorised into those network based projects with shorter term benefits for customers, and those targeted at the longer term stability of the network.

³ <http://www.comcom.govt.nz/dmsdocument/16031>, Allan Miller consulting on behalf of Powerco – Submission on Powerco CPP Draft Decision – 15th December 2017

⁴ Powerco CPP Proposal – CPP Consultation Report, 12 June 2017, pg19.

27. We also wish to re-iterate that we are committed to sharing what we learn from the proposed network evolution programme with other New Zealand EDBs and interested stakeholders. We are also committed to a high level of transparency of the delivery of our CPP through the Annual Delivery Report. Additionally, we will hold an annual technical workshop open to all stakeholders to share our findings from our network innovation and evolution initiatives.

C Whangamata Project

28. Throughout the consultation process Contact has continued to focus on the proposed Whangamata project. To support their understanding of our proposed solution, and the process we have undertaken to arrive at it, we have engaged with them outside of the submission process. We have used the face-to-face engagement opportunities to discuss how Powerco intends to further its collaboration with third parties on projects where non-network solutions may exist as part of a solution, notably Whangamata. From a Powerco perspective and the subsequent on-going engagement with Contact, we think the discussions have been positive and will be looking for them to continue.
29. In its submission to the draft decision, Contact has again raised the choice of the selected option to address the network security issues at Whangamata. We continue to stand by our chosen battery storage / diesel backup solution, followed by an additional 33 kV overhead line at a later stage (once the required route access can be obtained). Our option analysis clearly indicated that this configuration is net beneficial and had the greatest benefit of all the available alternatives. This remains the case even after the error identified by Contact in the Whangamata Options Analysis concerning the treatment of the TAI-3 Hikuai fault⁵ is corrected.
30. In addition, there are many additional non-quantified benefits from the selected solution. These include:
- a. Benefits of trialling a grid-scale battery storage system, as these are likely to become more prevalent in use. In this instances, it also includes the operation of a substantial distribution network in fully islanded mode, automatic network reconfiguration and automatic restoration once the main supply is restored
 - b. Learning how to operate, manage and maintain these types of systems and their impact to the grid through their operations
 - c. Improved support for multiple use case trials (planned outage impact mitigations, thermal limit management, and potential to extend storage

⁵ Contact also noted an additional 'error' regarding Battery Opex costs. However, this is related to a simplification in the model, rather than an error. Opex costs are only able to be applied as a percentage of total capital cost on the project. The Battery storage system has low to zero opex costs as the proposal is for a turnkey solution with a service contract built into the purchase price. The 1.0% reflects the fact that we don't expect much opex until the second line is built post the CPP period. This is in effect an average rate.

with other forms of commercially tendered generation)

- d. Environmental benefits of reduced reliance or avoidance of diesel generation (compared with a diesel only option)
 - e. Expectation of community buy-in for a solution that is innovative in alleviating security of supply concerns, and will minimise the use of non-renewable energy
 - f. Increased delivery certainty compared to overhead line (e.g. no line route / easement issues)
 - g. Enabling Whangamata to become a 'centre of excellence' for asset management where a number of projects related to demand management can be piloted in parallel, to further learning and our ability to defer network reinforcement (which could be beneficial for all parts of our network).
31. As this is our first network project that incorporates grid-scale battery storage, and the project is also unusually complex (involving automatic islanding, network reconfiguration, load shedding, and automatic restoration), there is significant technical learning and expertise to be gained from all phases of the project. To maximise this benefit, and thereby supporting the easier and more efficient roll-out of similar installations in future, it is important that our staff retain close oversight and intimate involvement with all facets of the project. This requires Powerco to own and manage the project, as opposed to outsourcing the work to a third party provider. We do note however, that in principle we understand and support open market involvement in helping to provide optimal energy solutions to our customers. On this basis, we fully intend to open up future similar projects to market testing and, where such offerings prove more beneficial, will adopt these in preference to in-house solutions. (Indeed, our ability to scope, evaluate and implement market-led solutions will be enhanced by our experience from the initial in-house project.)
32. It is also important to note that this proposed project is intended to address security of supply issues in Whangamata, by providing local capacity when the single bulk supply line to the town fails. As such, the battery will have to be fully charged at all times, to ensure that the required capacity is available when needed. This is an unusual application for large scale battery storage applications, which are normally directed at peak demand reduction, providing reactive support and voltage stability, or other market-driven applications, which allow regular charging and discharging, with associated commercial benefits. The latter applications also allow storage solutions through the combined control of multiple smaller units (typically owned by consumers), which further supports commercially viable offerings. Where batteries have to be kept fully charged, the scope for such offerings is greatly diminished.
33. Contact submitted that distributed residential scale battery storage solutions could in aggregate provide the backup supply required by Whangamata. As noted above, this would not be compatible with the particular requirements for

the Whangamata solution. In addition, during outage situations, the network will be reconfigured to ensure that the commercial sections of the town retain supply, while residential feeders could be disconnected. This means that, for a solution relying on multiple small storage units, all these units would have to be connected to a limited part of the network – a solution that is not considered practically feasible. In addition, many small scale battery storage solutions aren't designed to work in network island modes, and instead disconnect themselves from the grid when an upstream outage occurs. The additional capability to work in a distributed islanded mode, providing suitable voltage and frequency references for other loads, would add significant complexity and expense.

34. Given the technical features of the required solution, and the considerable qualitative benefits listed above, it is clear that the proposed battery/diesel hybrid solution outweighs the alternative options proposed.
35. We will in future investigate options to expand the storage capacity of the battery unit, as this may well hold considerable further potential technical and commercial benefits, beyond serving the basic need for supply security. Should such an expanded solution be pursued, we intend to invite market offers to participate in providing additional capacity and other service offerings to the Whangamata community.
36. In compliance with our options analysis process, we also considered other non-network solutions. Fuel switching to gas was considered, but with no reticulated gas available in Whangamata bottled gas would need to be used and unlikely to have much uptake and therefore ability to influence load reduction. Demand side response was also considered, but this would not address the total loss of supply conditions which the project is targeted at. It is however intended to trial more demand response options in future, to extend the use of the available storage capacity.

D Tauranga focused major projects

37. All proposed major projects go through an extensive options analysis process, documented in our Asset Management Plans and CPP proposal. The process and outcomes of our major projects options analysis process has been subject to robust and detailed challenge by multiple independent parties, in particular by the Commission and the independent verifier.
38. In addition to having the benefit of viewing all the project overviews documents and having access to Powerco engineers as part of their assessment process, the Commission and independent verifier also had access to further relevant project information, including our Network Development Plan which explained the network constraints for our various network areas, the options considered to address these constraints and our selected solutions.
39. With their enhanced ability to analyse our project proposals in depth, both the Commission and the verifier confirmed the veracity of these proposals. Accordingly, these projects were approved as part of the draft determination.

This included expenditure related to major projects planned in the Tauranga region during the CPP period, namely the Papamoa, Northern Tauranga Reinforcement (Omokora) and Pyes Pa projects.

40. The approval of these major projects were identified and challenged in the Contact submission on the draft decision. As the suggested non-network alternatives to the projects have been thoroughly tested and found not to be feasible for the high-growth areas and new developments involved, we cannot agree with Contact's suggestions. We believe that their suggestion may be based on a lack of sufficient background information (which the reviewers had access to), or insufficient consideration of the longer term life-cycle requirements of electricity supply to the region.
41. Appendix A is provided to give greater insights into the reasons for excluding non-network options from the feasible project shortlist.
42. Market driven alternatives to network solutions may be feasible in some instances, especially where relatively small distribution capacity or performance increments are required, or where investment deferral is economically beneficial. We are accordingly committed to, and working on, processes to invite commercial offerings as network alternatives, where these could be feasible. It should be noted that for the large majority of our investment decision cases, non-network alternatives are not feasible. This is especially the case for many asset renewal and network upgrades, for expansions in areas with no or limited supply redundancy, for new greenfield developments, or where major load growth is expected.
43. The primary responsibility and expertise for operating the distribution network safely, reliably and efficiently, with a full appreciation of the long-term network requirements, lie with Powerco. As such, and as also reflected under current regulatory rules, it remains our responsibility and judgement to determine where conventional network solutions, or in-house driven innovative solutions, are the most appropriate,⁶ and to implement the most cost-effective means of achieving the required outcome. A requirement to seek alternative external offerings for our day-to-day investment decisions, especially where most of these do not readily lend themselves to non-network alternatives, would not only introduce considerable delays in implementing solutions, with associated customer impact, but would in the majority of cases be unlikely to provide material cost or technical benefits. This could seriously impede our ability to effectively operate our network and provide the service our customers expect.
44. The Tauranga major network projects are examples where projects have been thoroughly evaluated and where non-network alternatives are not to be economically or technically feasible. The recommended investment options, which are network based solutions, have been selected as part of our assessed options analysis process and we remain certain they represent the best

⁶ With present technology, asset pricing and customer requirements, conventional network solutions are still the most cost effective and reliable means of providing electricity supplies to the large majority of our customers.

technical and economical outcomes to meet the growing needs of the region in the short and longer term.

45. On an associated aspect, the NZIER submission on behalf of MEUG raised concerns with our options analysis treatment of VoLL being based on peak demand, if there is no alternative capacity. NZIER is correct in that calculating VoLL based on peak demand would overstate the value as outages do not always occur at peak loading. However, we believe NZIER has misinterpreted the mechanics of our models⁷. A load duration curve calculation is always applied to the peak demand to calculate an average load at risk.⁸ Therefore the net benefits we have calculated are based on average expected conditions, and should not be scaled down. We are happy to discuss the mechanics of these models with NZIER and MEUG.⁹

E Reactive Opex

46. The Fonterra submission raised concern that the reactive Opex forecast is 7% higher than historical levels.
47. Our investments in asset renewal and preventive and corrective maintenance are intended to stabilise fault trends, as opposed to reducing them. We still expect faults to occur on our network in the future, but at manageable levels.
48. The reactive Opex forecast was built as a base-step-trend model. We expect reactive Opex to remain generally flat and in-line with historical levels, as per the point above. As such we set our base forecast level at recent historical levels.
49. We have however allowed for a small number of additional standby fault personnel to assist in managing the increasing number of faults being experienced on the network, to manage increasing fault restoration times. This represents a small step increase in our forecasted reactive Opex.
50. Our network also continues to experience growth, requiring additional assets and translating into additional network length and ICPs. We modelled the maintenance impact of this as a small compounding trend factor in the forecast expenditure model.
51. It is noted that we have included a top down efficiency adjustment to our reactive Opex forecast in years four and five of the CPP period. This reflects the efficiencies we expect to gain in maintenance from asset management and process improvements, as well as our increasing investments in asset

⁷ NZIER requested from the Commission copies of our options analysis economic models for all our major projects.

⁸ NZIER's point that if there is no alternate capacity then the peak demand is applied to the VoLL calculation is technically correct, however data validation prevents a value of zero being entered into the firm capacity fields and rather a value of 0.001 is required as per the comment field in the model.

⁹ We accept our models could be better documented and laid out to prevent these misinterpretations from occurring, though the models when developed were not built with an external audience in mind. We intend to refine these models over time to make them both easier to use and more transparent to stakeholders.

renewal, preventive and corrective maintenance. This adjustment resulted in a 3% reduction by 2023.

52. The combined effect of these modelling assumptions is a forecast 7% increase compared to a 2014-2018 average. However the overall expenditure trend is generally flat, and as a proportion of our overall spend it drops significantly during the CPP period.

D Conclusion

53. We are pleased to see continued stakeholder engagement in our proposal. The limited issues raised in submissions to the draft decision indicate broad support for the majority of the proposal. The submissions to the draft decision also reinforce the need for a post-final decision review of the CPP framework and process as many of the points raised are more appropriate for this than consideration in assessment of the Powerco proposal.

Yours sincerely



Stuart Marshall

General Manager Regulatory and Commercial

Appendix A

Tauranga Projects – Reasons for excluding non-network options from shortlist

Papamoa

The project is driven by substantial ongoing greenfield suburban development, carefully planned as part of a joint Tauranga City Council and Western Bay of Plenty District Council urban growth strategy, steered through a joint working group, 'Smartgrowth'. The Council development plans have shaped the future of the area through substantial consultation over the last 10 plus years.

The three non-network options (distributed generation, fuel switching and demand side response) were not shortlisted on the following basis:

- Renewable generation sources are often not viable due to their intermittent nature and cost. Viable renewable generation options are also limited by the fact that the load on the Te Maunga/ Papamoa cable-spur is winter peaking. Fossil fuelled generation is technically viable but not shortlisted due to cost, environmental and consenting and issues. At no stage during the Council's extensive consultation has any alternate energy source been raised as a possibility by any of the major generators.
- Fuel switching and demand side response (DSR) are considered to be deferment strategies and their viability is uncertain. The greenfield development at Papamoa is inherently not viable for fuel switching and DSR as there are no existing customer to switch / control load. Powerco presently uses a mains borne ripple control system to control significant amounts of existing hot water cylinder load on the Te Maunga / Papamoa cable-spur. No significant/additional winter peaking consumer loads have been identified for control and given the greenfield nature & rate of the developing load DSR is not considered to be viable.

Pyes Pa

The development at Pyes Pa is similar to that of Papamoa in that the development is suburban greenfield in nature, has been widely consulted and is now also part of the joint council 'Smartgrowth' initiative. Powerco have worked with the developers to deliver a solution suited to the needs of the developer, and have done so in a competitive environment (The developers sought alternate reticulation solutions from other lines companies in direct competition to Powerco).

The three non-network options (distributed generation, fuel switching and demand side response) were not shortlisted on the following basis:

- Renewable generation sources are often not viable due to their intermittent nature and cost. Viable renewable generation options are also limited by the fact that the load on the southwest Tauranga area is winter peaking. Fossil fuelled generation is technically viable but not shortlisted due to cost, environmental and consenting issues.

- Fuel switching and demand side response (DSR) are considered to be deferment strategies and their viability is not certain. Powerco uses a mains-borne ripple control system to control significant amounts of hot water cylinder load on its network. During peak loading periods most hot water cylinders are turned off. The demand reduction, however, is not sufficient to alleviate the constraints. No significant/additional winter peaking consumer loads have been identified for control.

Tauranga Northern Reinforcement (Omokoroa)

The Tauranga Northern Reinforcement project is primarily driven by greenfield suburban development from council growth strategies.

The three non-network options (distributed generation, fuel switching and demand side response) were not shortlisted on the following basis:

- Renewable generation sources are often not viable due to their intermittent nature and cost. Viable renewable generation options are also limited by the fact that the load on the northwest Tauranga area is winter peaking. Fossil fuelled generation is technically viable but not shortlisted due to cost, environmental and consenting issues.
- Fuel switching and demand side response (DSR) are considered to be deferment strategies and their viability is not certain. Powerco uses a mains-borne ripple control system to control significant amounts of hot water cylinder load on its network. During peak loading periods most hot water cylinders are turned off. The demand reduction, however, is not sufficient to alleviate the constraints. There are no major industries in the Northern Tauranga area that would provide an opportunity for fuel switching or DSR.

Appendix B: Network Evolution Projects

The table below categorises our Network Evolution projects into those network work based innovation projects that will offer benefits in the short term to consumers, and the projects are more evolutionary and target the longer term network stability. (We note that there is a considerable degree of cross-over between these benefits – for example, customers will also benefit from a stable quality of supply, or effective control of EV charging will also help ensuring network stability).

Short-term customer benefit Initiatives	Benefits
Automatic fault detection and location	<ul style="list-style-type: none"> • Reduced outage times (especially in rural areas) • Avoid remote safety issues • Improved reliability • Enhanced performance of worst performing feeders • Reducing costs by increased contractor efficiency
Self-healing networks	Build on automatic fault detection pilots to: <ul style="list-style-type: none"> • Improve restoration times • Allow islanded networks • Improve supply resilience • Reduced network cost by deferring reinforcements
Integrating community energy schemes	<ul style="list-style-type: none"> • Enhanced incentives for use of distributed generation • Enhanced incentives for energy storage or other demand management means • Increased supply resilience • Maximise customer energy use flexibility • Peer to peer trading
Electric vehicle charging control systems	<ul style="list-style-type: none"> • Avoid restrictions on charging • Avoid network reinforcement cost • Facilitate vehicle to grid energy exporting
Demand management	<ul style="list-style-type: none"> • Avoid or defer network reinforcement cost • Downward pressure on energy prices
Longer term network stability benefits	Benefits
Energy storage	<ul style="list-style-type: none"> • Increase asset and network utilisation • Avoid or defer network reinforcement or asset renewal • Improve network stability • Access potential for ancillary support services from customer sources
Real time asset ratings	<ul style="list-style-type: none"> • Increase asset and network utilisation • Avoid or defer network reinforcement or asset renewal • Increase asset lives
State estimation and network automation	<ul style="list-style-type: none"> • Allows higher asset and network utilisation • Improved outage management and post-fault response • Allow capacity and demand matching

	<ul style="list-style-type: none">• Increased network utilisation
Voltage support applications	<ul style="list-style-type: none">• Maintain power quality within regulated levels• Maintain network stability• Potentially lower cost sources of VAR compensation
Smart meter data analysis	<ul style="list-style-type: none">• Improved network planning• LV outage indication• Network utilisation information and demand curves• Consolidation of network power flows
Network Insights	<ul style="list-style-type: none">• Avoid or defer network reinforcement• Improved asset utilisation / load factor• Enhanced fault location• Enhanced load flow & asset utilisation analysis