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Dear Brett,

## Cross-submission: Proposed amendment to the WACC percentile

We welcome the opportunity to cross-submit in relation to the Commerce Commission's consultation paper "Proposed amendments to the WACC percentile for electricity lines services and gas pipeline services", 22 July 2014, and related expert reports. No part of our cross-submission is confidential.

### The evidence does not support a percentile change decision at this point

While the extent to which the WACC should be above mid-point will always be open to debate, and judgement, Transpower's view is that there is now sufficient evidence to conclude that the 75<sup>th</sup> percentile would satisfy the promotion of the long-term interests of consumers. Having reviewed submissions we consider that substantive new evidence would be required for the Commission to retain its draft decision to reduce the WACC percentile.

Our overall reading of the issue at this stage in the process is as follows.

1. Submitters have identified clear problems with the evidence supporting the Commission's draft decision to reduce the WACC estimate percentile.
2. The Commission's own work, and the evidence provided by submitters, provides enough evidence to conclude for now that the 75<sup>th</sup> percentile is a reasonable setting. Further work may well support a higher percentile estimate.
3. Clear avenues for further enquiry have emerged that cannot be pursued satisfactorily within the short timeframe available to make a pre-RCP2 decision. There is a reasonable prospect that further analytical work will provide a firmer basis for reaching a conclusion on the estimate percentile as part of the scheduled review of the input methodologies.
4. There is clear support from submitters for limiting changes to the IMs. This is good regulatory practice, supports the objectives of the IM framework and appropriately recognises the legitimate and reasonable expectations of investors.

The remainder of this cross-submission, after some brief introductory comments, expands on each of these points. We also comment on MEUG's submission, and the report by NZIER "Changing the WACC percentile" prepared for MEUG, as this is the only energy consumer submission and it includes some analysis of Transpower's recent investment behaviour that we briefly comment on.

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## INTRODUCTION

Submissions made in response to the Commission's second round of consultation on the WACC percentile have generally benefited, though, from the time available since the Commission first initiated the review.

Nevertheless, the consultation period for the second WACC percentile consultation paper was relatively brief given the volume and complexity of the consultation material and the materiality of the issue – as reflected in NZIER's comment that they were not able to remedy the problems with Oxera's loss function model in the time available. We also consider the stilted nature of the process hindered the evidence development efforts of, and imposed addition costs on, submitters.

The Commission has acknowledged the possibility the outcome of the review could be a higher WACC percentile. We consider the submissions, evaluated on merit, clearly indicate this possibility and or at least retention of the status quo. That the majority of submissions were from regulated suppliers is unsurprising and should not detract from the evidence they contain.

### Late MEUG / NZIER submission

We are in receipt of a NZIER report "Valuing investments in network reliability, 9 September 2014. This was provided to us by MEUG on 10 September. While we appreciate the courtesy of MEUG providing the NZIER report directly to us we have been unable to consider the MEUG/NZIER submission in the little over 2 days available.

While we expect the Commission will either reject the late submission, or afford submitters the opportunity for cross-submissions, our brief review of the material reinforces comments by NZIER and other submitters that the timeframes for this review are not conducive to a robust, evidence - based decision.

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## OVERALL READING OF THE SITUATION

### 1. Problems with the evidence supporting a lower WACC percentile

We agree with Powerco that the "data sources referred to by the Draft Decision as supporting a lower WACC percentile are nowhere near robust enough for the Commission to make that decision with confidence".<sup>1</sup> Similarly the NZ Airports Association view that "... each piece of "persuasive evidence" relied on by the Commission is seriously flawed"<sup>2</sup> and "Unison submits that the Commission does not have evidence before it to be confident in adopting a different WACC percentile from the 75th percentile in setting the cost of capital".<sup>3</sup>

NZIER express similar sentiment in remarking "What did we learn from the consultation process - to be honest, very little. This is not being critical of the process but for us it highlights that we now know what we don't know. The Commission's advisors made an honest attempt at a 'probability of loss' analytical approach but it is disconnected from New Zealand specific conditions, reducing its applicability to the Commission's decision."

In Appendix A to this cross-submission we examine, in light of submissions, each substantive piece of evidence/rationale relied on in the draft decision to adopt a WACC percentile range where 75<sup>th</sup> is the ceiling and to lower the WACC percentile. In summary, submissions clearly indicate that:

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<sup>1</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 7.8.

<sup>2</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 71.

<sup>3</sup> Unison, SUBMISSION ON WACC PERCENTILE INPUT METHODOLOGY DRAFT DECISION, 29 August 2014, page 1.

- too much reliance is place on Oxera informal loss-function modelling
- the analysis of RAB multiples of EDB sales/share-trading is not statistically valid or methodologically robust
- there is no evidence to support the assumption that investment is currently at optimal levels
- portfolio diversification cannot make up for an inadequate WACC/revenue allowance (and the Commission appears to have misapplied finance/portfolio diversification theory)
- it is invalid to assume the mid-point WACC estimate is not biased downwards
- “other factors” such as reputation, or other possible changes to the IMs that have not been made, (or recourse to punitive measures) cannot and should not be relied on to ensure adequate investment in place of an adequate WACC.

It is difficult to see, with the benefit evidence and analysis provided by submitters, how the evidence relied on in the draft decision to reduce the WACC percentile from 75<sup>th</sup> to 67<sup>th</sup> percentile could meet the evidence-based expectations of the High Court. The substantive evidence provided in submissions did not simply demonstrate the shortcomings in the evidence relied on in the draft decision but strongly support the status quo or a WACC percentile and indicates that a higher percentile may be appropriate.

## 2. Evidence to date supports 75th percentile or higher

The evidence provided by interested parties and by the Commission’s experts, including Oxera (after its report is corrected for errors and biases), provides stronger and more reliable support for retention of 75th percentile or an increase in the percentile, than for a reduction in the WACC percentile. This is the case regardless of whether a consumer or total surplus approach is adopted. Evidence provided by Frontier Economics (for Transpower), Incenta and HoustonKemp are particularly helpful in terms of ensuring evidence-based decisions, and quantifying the costs and benefits to consumers of different WACC percentiles:

- Frontier Economics show that once the Dobbs’ model is adapted to address the issues raised by the Commission, and its expert advisors, the optimal percentile could be 87% (consumer surplus test) or near 100% (total surplus test)
- the more limited loss function modelling undertaken by Oxera (once corrected), Incenta and HoustonKemp show that, it actually supports retention of 75<sup>th</sup> percentile or an increase in the WACC percentile, not a reduction.

As far as we are aware there is no validated quantified evidence in support of a reduction in WACC percentile. On the basis of the evidence before the Commission, at present, the Commission would have to rely on considerable judgement to reach a conclusion that the WACC percentile should be reduced. Such a judgement is likely to be subject to the same criticisms the High Court raised with the original decision to set the WACC percentile at 75<sup>th</sup>.

Our view is that the evidence overwhelmingly points to retaining the 75<sup>th</sup> percentile, pending full IM review. If the current IMs are held to have no “special standing”, a contention we do not support, then the evidence suggests the percentile selection should be increased to 80+%.

### 3. Further work needs to be done before a 'safe' decision to lower the WACC could be made

In our previous submission we stated that “Having made the commitment to evidence based decision making the Commission must now ensure its final decision on the WACC percentile is based on the most complete and robust evidence available to it. It must also discount evidence shown to be deficient and adjust its treatment of evidence shown to be incomplete”.<sup>4</sup>

The Commission has acknowledged “there are gaps in the available evidence”, but says “this was always going to be the case due to the fundamental uncertainty referred to above”.<sup>5</sup> The submissions and accompanying expert reports go a long way in further reducing these gaps and indications are that extending this analysis will materially improve the robustness of the percentile selection decision.

Building on the next steps we identified that the Commission should undertake in our previous submission, we would also emphasise the following:

- **The Commission should assess the merit of the High Court “tentative and in-principle” arguments:** the starting point for the review should have been an analysis of the High Court’s “tentative and in-principle” views on why the 75<sup>th</sup> percentile WACC may be too high. This has been done by Transpower in the initial consultation, and by Powerco and Dr Lally, but the Commission has not expressed a view on the merit of the High Court’s analysis. Our view is that if a lower WACC percentile is warranted it isn’t for any of the reasons the High Court suggested.  
  
We agree with AMP Capital that “Our reasonable expectation was that the Commission would first subject the Court’s comments to critical analysis ... We had anticipated that the Commission would highlight the clear errors made by the Court in its analysis, and defend the judgement it had exercised following a multi-year consultation process, and advice from a pre-eminent Panel of Experts. We also anticipated the Commission to say, in accordance with the Court’s direction, that it would give the Court’s comments further consideration when input methodologies were next reviewed. We expand on this point in section 4 of this submission” (emphasis added).<sup>6</sup>
- **The Commission should reconsider its position on the threshold for amending the WACC percentiles in the IMs:** the Commission has undermined certainty/regulatory stability, contrary to the purpose of the IMs, by adopting an approach whereby an IM that has withstood a merit appeal is deemed to have no “special standing”. The Commission should only introduce change if it is satisfied this would be materially better than the status quo. Our view, and the view of the majority of submitters, is that the evidence the Commission has relied on in its draft determination is not adequate to justify a reduction in WACC percentile.
- **The Commission should explicitly consider “reasonable investor expectations” in the same as way as under the Telecommunications Act:** we agree with submitters that the Commission should test whether the decisions that the Commission is making are consistent with “reasonable investor expectations”, in the same way as the Commission is doing for decisions on TSLRIC price control of Chorus’ UBA and UCLL copper services.<sup>7</sup>

A starting point would be to consider whether the Commission’s view on “reasonable investor expectations” accords with AMP Capital and QIC’s views, given they are investors.

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<sup>4</sup> Transpower, Commerce Commission consultation: proposed amendment to the WACC percentile, 31 August 2014, s9.

<sup>5</sup> Commerce Commission, Draft Decision, paragraph 4.5.

<sup>6</sup> AMP Capital, SUBMISSION TO COMMERCE COMMISSION ON PROPOSED AMENDMENT TO THE WACC PERCENTILE FOR ELECTRICITY LINES SERVICES AND GAS PIPELINE SERVICES, 26 August 2014, paragraph 1.9.

<sup>7</sup> For example, AMP Capital, Submission to Commerce Commission on proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 26 August 2014, paragraph 3.6.

In this context, we note AMP Capital's statement that "These proposed changes significantly undermine investor confidence and increase the risk profile of investing in regulated industries in New Zealand, compared with the risk profiles in North America, UK, Europe and Australia. As a consequence, the relative risk-adjusted equity (and debt) returns we, and other investors would require for future investment in New Zealand is increased - which would not be in the long term interest of consumers".<sup>8</sup>

- **Explicit decision on consumer versus total surplus test needed:** the Commission has not expressed a firm position, though the draft determination appears to be based solely on a consumer surplus test. The Commission's decision here has a very material impact, as identified by most expert reports, on the optimal WACC percentile and it is appropriate that the Commission consult on, and explicitly determine, how the consumer and total surplus tests are to be balanced.

We note that the Electricity Authority and numerous submitters have argued workable competition and "long-term benefit of consumers" translates to a total surplus test. The Electricity Authority, for example, interprets long-term benefit of consumers as meaning "that, in virtually all circumstances, only the efficiency gains of an initiative should be treated as benefiting consumers, with wealth transfers excluded because they 'net off' among all electricity consumers once indirect wealth effects are taken into account".<sup>9</sup> (This may be an issue that the Commission and Electricity Authority could jointly resolve.)

- **Further work in relation to Oxera loss-function modelling:** we agree with NZIER that the Commission should "... develop an alternative estimate of the welfare losses from outages to that presented by Oxera".<sup>10</sup> We recommend that the Commission should:
  - re-run the Oxera modelling with corrections and/or accept the corrections provided by HoustonKemp and Incenta
  - evaluate the Oxera modelling against alternative modelling such as that undertaken by Frontier Economics.
- **Further consultation if the Commission relies on new evidence:** if the Commission, after review of submissions and preparation of further evidence, remains of the view the WACC percentile should be lowered it should re-consult. This is based on our expectation the Commission would need substantive new evidence to support a final decision to lower the WACC percentile, given the deficiencies of the evidence and analysis relied on for the draft.
- **Sector by sector considerations should be taken into account:** submitters to this and the parallel Telecommunications Act final pricing principle determination process highlight the need to consider the WACC percentile sector by sector. Chorus and the NZ Airports Association and Wigley & Company argue for a more considered approach to this issue.

#### 4. Unlikely that a 'safe' decision can now be made in time for the DPP and IPP resets

The majority of regulated suppliers and other interested parties (investors) voiced concern about the Commission undertaking an early review of the WACC percentiles used under the IMs, preceding the statutory review of the IMs required by 2017 (and that the timeframe for the review was too tight and could divert attention from other important aspects of the second price resets for electricity networks). While we share these misgivings we were also sympathetic to the concern expressed by

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<sup>8</sup> Ibid paragraph 1.8.

<sup>9</sup> Electricity Authority, Interpretation of the Authority's statutory objective, 14 February 2011, e.g. paragraph A.6.

<sup>10</sup> NZIER, Changing the WACC percentile Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 16.

MEUG, on behalf of its members, that if the WACC percentile was set too high, it could result in material over-pricing for the next five years. We fully understand the Commission's desire to attempt to complete the review of the WACC percentile prior to the next price resets given the pricing implications of this decision.

However, the evidential standards required to meet the High Court's requirements, and the complicated nature of the issue, meant it was always going to be challenging for the Commission to make a final decision in time to be reflected in the EDB DPP and transmission IPP resets. For example, the timeline afforded only a single consultation and did not include workshops or conferences, if it were to meet its EDB DPP and transmission IPP reset deadline.

In our view it is clear from submissions, including that of MEUG and NZIER, that the Commission's draft decision relies on expert reports and analysis that contain substantive deficiencies and do not provide the "evidence" that could be relied on to satisfy the High Court's requirements for an evidence-based decision. The Commission now has sufficient evidence to retain 75<sup>th</sup> percentile (and arguably to increase it) - but it does not have sufficient evidence to reduce it.

As NZIER state: "we doubt there is time this year to consider more robust and systematic frameworks for dealing with uncertainty and potential asymmetries of costs from errors in the estimation of WACC."<sup>11</sup> Given time constraints, we suggest the Commission undertake the remainder of the review outside of the current EDB DPP/transmission IPP reset process timetables and consider it next either for the UBA and UCLL FPP determinations,<sup>12</sup> the Gas DPP reset or the statutory IM review.

That approach would be consistent with the High Court's expectations: "...we are mindful that the IMs will be reviewed. At that time, we would expect our scepticism about using a WACC substantially higher than the mid-point...will be considered by the Commission".<sup>13</sup>

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## MEUG AND NZIER: THE BURDEN OF PROOF FOR CHANGE

MEUG and NZIER argue that a mid-point estimate is the best fall-back position in the absence of sufficiently robust evidence on the appropriate percentile. In support of this position, MEUG claim "The High Court and the Commission agree that the starting point is the mid-point ..." (emphasis added)<sup>14</sup> but provide no reference from the High Court decision to support this position. We suggest that MEUG has misinterpreted the High Court decision.

MEUG also claim that "In the absence of empirical evidence supporting an uplift, the mid-point best estimate WACC remains the only evidence based option".<sup>15</sup> Similarly, NZIER assert "We are not satisfied with what appears to be a presumption that a lack of evidence against uplift implies the need for uplift. It is also not reasonable to presume that welfare costs from WACC estimation error are always asymmetric".<sup>16</sup>

In relation to MEUG's qualification that "In the absence of empirical evidence supporting an uplift ... " several expert reports submitted in response to the draft decision provide substantive quantified

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<sup>11</sup> NZIER, Changing the WACC percentile Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 33.

<sup>12</sup> We recognise the Commission could retain the 'status quo' for Part 4 of the Commerce Act, but has to make a specific decision on WACC percentile for the UBA and UCLL FPP determinations as these determinations are being made for the first time and there is no equivalent of the IMs to fall back on.

<sup>13</sup> Wellington International Airport Ltd & Ors v Commerce Commission [2013] NZHC, paragraph 1486.

<sup>14</sup> MEUG, Submission on proposed amendment to WACC percentile, 29 August 2014, paragraph 24.

<sup>15</sup> Ibid paragraph 23.

<sup>16</sup> NZIER, Changing the WACC percentile: advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 2.

evidence in support of a 75<sup>th</sup> percentile WACC or higher. On the contrary, no quantified evidence has been provided in support of a WACC lower than 75<sup>th</sup>.

Asserting that the starting point is the midpoint is not credible. If MEUG's argument was accepted it would reverse the High Court decision that the 75<sup>th</sup> percentile stands in the absence of evidence that an alternative WACC would be materially better. MEUG's appeal of the High Court's decision failed at the first hurdle and it would be perverse to reverse the evidential requirements when the Commission reviews the WACC percentile.

Contrary to this view most submitters agree that the existing setting should be retained until there is compelling evidence some other setting would better promote the purpose of Part 4. We agree with Orion on this matter – specifically that:

“the Court could have refused to uphold the IM until the Commission had obtained the empirical evidence to which it refers in its judgment. In that case, the Commission would have been quite entitled to say it needed to approach the issue afresh. But the Court did not do that. Instead, it confirmed the Commission's selection of the 75th percentile, and observed that it could have been supported by more empirical evidence. It subsequently refused to grant the Major Energy Users Group leave to appeal the decision to the Court of Appeal.”<sup>17</sup> (Other parties such as NZ Airports Association<sup>18</sup> and Unison<sup>19</sup> made similar comments.)

We also agree with AMP Capital that:

“The Commission's position in the Draft Decision that it can treat a published input methodology as not representing the status quo undermines the predictability and stability the input methodology regime was designed to deliver”.<sup>20</sup>

It is self-evident that IMs, unless rejected by the High Court, need to have special standing as the status quo if the certainty purpose of the IMs is to be achieved over time.

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## NZIER's “CHANGING THE WACC PERCENTILE” REPORT

### Assessment Oxera's loss function modelling

We agree with NZIER about the problems with relying on Oxera's loss function modelling and RAB multiples, and their concern that there is insufficient time to address these matters robustly:

We are especially concerned that the Oxera analysis makes primary assumptions of a loss function which provides a basis for developing an approach, then gather data from US sources and attach it all to a calculation of welfare losses here in New Zealand. In some ways the discussion is now more confused because, in reality there are more assumptions and unknowns than we realised before.<sup>21</sup>

Oxera makes use of a small number of studies from the US that postulated the size of losses from earlier electricity black-outs there. They then guesstimate the probability of these types of losses occurring here in New Zealand.<sup>22</sup>

Their analysis ... falls short on execution and does not adequately consider all classes of network investment, focussing on reliability investments.<sup>23</sup>

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<sup>17</sup> Orion, Submission on Commission's draft decision on the WACC percentile, 29 August 2014, paragraph 13.

<sup>18</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 8(a).

<sup>19</sup> Unison, Submission on WACC percentile input methodology draft decision, 29 August 2014, page 2.

<sup>20</sup> AMP Capital, Submission to Commerce Commission on proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 26 August 2014, paragraph 1.15.

<sup>21</sup> NZIER, Changing the WACC percentile Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 9.

<sup>22</sup> Ibid page 20.



...we are concerned that the Commission places too much reliance on two observations of the sale of shares in regulated lines companies at an apparent premium over the value of the regulated assets in the financial accounts ... there are too many unknowns and that these approaches should not be relied upon to support a quantitative decision.<sup>24</sup>

... we doubt there is time this year to consider more robust and systematic frameworks for dealing with uncertainty and potential asymmetries of costs from errors in the estimation of WACC.<sup>25</sup>

The point of difference is that NZIER/MEUG use this to conclude the Oxera evidence cannot be relied on to justify a WACC above 50<sup>th</sup> percentile. We and the majority of other submitters would instead conclude the Oxera evidence cannot be used to justify lowering the WACC below the status quo (75<sup>th</sup> percentile). This is reinforced by evidence indicating that, once corrected, the Oxera modelling supports either retention of 75<sup>th</sup> percentile or an increase.

### NZIER views on impact of WACC on investment

The NZIER Report argues there should be more analysis of the extent to which the regulatory WACC setting has had some influence on actual levels of investment in New Zealand. In support of this proposition, NZIER comment on observed capital investment by Transpower and by distribution businesses.

We agree with NZIER that it can be useful to complement formal modelling with consideration of empirical evidence regarding investment behaviour and the consequences of non-investment. This type of analysis has to bear in mind that:

- there are multiple factors that influence investment decisions and outcomes in practice
- much of the impact of regulatory settings on firms' behaviour, and of firms' behaviour on service outcomes, takes time to reveal itself and may play out in subtle ways that, nonetheless, have material impacts over time.

NZIER's cursory analysis reinforces some of these points. It is also worth commenting on several specific conclusions NZIER has reached:

- Transpower does not, as NZIER say, have a reduced capital programme for RCP2 compared to the base capital programme during RCP1
- we agree that we have invested less than our regulatory allowances during RCP1. There are various factors driving this outcome, but it is difficult to see that any of these point to the conclusion that the regulatory WACC during RCP1 was too high
- network performance has improved during recent years such that Transpower would earn a hypothetical revenue increase against RCP1 network targets. However, this reflects that the RCP1 targets are based on a rolling average such that a revenue increase is inevitable if performance is improving. This contrasts with the forward-looking targets in place for RCP2 that demand further improvement in reliability, particularly for High Priority sites.

Our view is that whether investments can recover their costs is inevitably a critical determinant of the level of investment over time. We find it curious that this concept is in dispute. The costs of under investment can manifest in several ways, as explained in submissions, including as reduced reliability, increased congestion, less optimal life-cycle costs and generally lower levels of service.

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<sup>23</sup> Ibid page 23.

<sup>24</sup> Ibid pages 20 and 21.

<sup>25</sup> Ibid page 33.



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## OTHER MATTERS

### Frontier Economics source code and Excel model interface

Appendix B contains a letter describing the process by which we have produced and provided additional information to the Commission (and some caveats relating to that information) relating to modelling work undertaken by Frontier Economics. We expect that the Commission will publish that letter separately but include here for completeness.

### Decision making and uncertainty

We note NZIER's view that "The Commission have set a process in motion that threatens the durability of the Part 4 regulatory approach"<sup>26</sup> and we support the NZIER's sentiment that "The Commission needs to adopt a more structured approach to thinking about its rule-making under uncertainty. Less judgement and more transparency will promote time-consistent policy making".<sup>27</sup>

### High Court decision did not undermine investment incentive benefits of 75th percentile

We agree with Powerco that "The Commission is concerned that investors will decide the High Court's comments create too much risk of change to the WACC point estimate in 2017, and therefore not invest before then. In which case, consumers pay the insurance inherent in the 75th percentile without getting the benefit of investment decisions. That is not the way investors think about the 75th percentile or the High Court's comments. The High Court's comments are a reminder that IMs may be changed in 2017 and that in relation to the WACC IM some stakeholders will argue for a lower WACC percentile. However we knew that before the High Court decision. Investors know that the Commission cannot promise the 75th percentile will be used forever. The incentive power of the 75th percentile decision does not lie in a promise by the Commission that the percentile decision is permanent, or won't be changed in 2017, or in 2024. Investors assess the incentive power of the 75th percentile decision knowing it will be statutorily reviewed at least every seven years. For that reason the High Court's comments have not changed the incentive power in the 75th percentile decision".<sup>28</sup>

I trust that this cross-submission is of assistance to the Commission. Please let me know if you have any questions or would like to discuss any of the points made within.

Yours sincerely,



Jeremy Cain  
**Regulatory Affairs Manager**

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<sup>26</sup> NZIER, Changing the WACC percentile: Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 2.

<sup>27</sup> Ibid page 3.

<sup>28</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraphs 10 – 12.

## APPENDIX A: SUMMARY OF PROBLEMS RAISED WITH THE COMMISSION'S EVIDENCE FOR THE 67<sup>TH</sup> PERCENTILE

Rationale for lower WACC percentile	Illustration of submitter response
<p><b>The Commission has over-relied on the OXERA loss-function modelling.</b></p> <p>The OXERA loss-function modelling suffers from a number of problems, including, but not limited to:</p> <ul style="list-style-type: none"> <li>(i) it is overly assumption based (contrary to the Commission's attempt to ensure more evidence-based decisions)</li> <li>(ii) it is limited to reliability investments and fails to recognise the impact of economic investments is cumulative on the optimal WACC percentile</li> <li>(iii) if it is adjusted to apply a total surplus test it finds in favour of a WACC percentile uplift, and</li> <li>(iv) if it is adjusted to correct for errors/biases it finds in favour of a</li> </ul>	<p>"The Oxera report heavily relied upon by the Commission: ... has analysed reliability investments in electricity lines services only. It provides no empirical evidence about other types of investments and/or investment effects. Nor does it provide any empirical evidence for gas pipeline services."<sup>29</sup></p> <p>"HoustonKemp also notes that the "backbone" of Oxera's analysis is in fact assumptions that Oxera makes about key relationships. This issue was also noted by Vogelsang. The result is that the Oxera model is not, in fact, the empirical evidence that the High Court was talking about."<sup>30</sup></p> <p>"We are especially concerned that the Oxera analysis makes primary assumptions of a loss function which provides a basis for developing an approach, then gather data from US sources and attach it all to a calculation of welfare losses here in New Zealand. In some ways the discussion is now more confused because, in reality there are more assumptions and unknowns than we realised before."<sup>31</sup></p> <p>"Oxera makes use of a small number of studies from the US that postulated the size of losses from earlier electricity black-outs there. They then guesstimate the probability of these types of losses occurring here in New Zealand."<sup>32</sup></p> <p>"Their analysis ... falls short on execution and does not adequately consider all classes of network investment, focussing on reliability investments."<sup>33</sup></p> <p>"Oxera was instructed by the Commission not to consider a number of other factors that are highly relevant to the choice of percentile. For example, Oxera observes that its estimate does not factor in the consequences of certain types of risk (eg model error, and fluctuations in the risk free rate and debt risk premium during a regulatory period). Oxera was also directed not to consider other factors that could be relevant to the choice of percentile, such as the effect of asymmetric cash flow risks (despite noting that the treatment of these risks is important to the</p>

<sup>29</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 9(b)(i).

<sup>30</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraphs 54 – 55.

<sup>31</sup> NZIER, Changing the WACC percentile Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 9.

<sup>32</sup> NZIER, Changing the WACC percentile Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 20.

<sup>33</sup> NZIER, Changing the WACC percentile Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, page 23.

Rationale for lower WACC percentile	Illustration of submitter response
<p>WACC percentile uplift. This has been confirmed by both HoustonKemp and Incenta.</p> <p>This is further reinforced by Lally and alternative modelling, such as that provided by Frontier Economics, which doesn't suffer from the deficiencies of OXERA and indicates a WACC above 75<sup>th</sup> percentile is appropriate.</p>	<p>choice of the WACC). Had it considered these factors, it is reasonable to assume that the upper limit of its WACC range would have been higher - perhaps even above the 75th percentile.”<sup>34</sup></p> <p>“The quantitative analysis conducted by Oxera, particularly when considered alongside the evidence of the Commission's other expert advisors, does not in fact support the view that a percentile below the 75th is appropriate. In placing considerable weight on Oxera's analysis, the Commission has closed its mind to other evidence that suggests a WACC estimate at or above the 75th percentile is warranted.”<sup>35</sup></p> <p>“While Oxera identified a plausible range for the: cost of a major outage, the results it has reported and the Commission has relied upon are based upon the lower bound of that range. There is no justification for this. We have reworked Oxera's results, and show that if instead the mid this range is used then an increase in the WACC percentile to the 80th percentile would continue to generate net benefit under the consumer welfare standard investment to WACC errors is assumed.”<sup>36</sup></p>
<p><b>The Commission's analysis of RAB multiples of EDB sales/share-trading is invalid:</b></p> <p>(i) overseas regulators have rejected use of RAB multiples</p> <p>(ii) the Commission has not taken into account other factors (e.g. non-RAB assets) that could explain the multiples</p> <p>(iii) the sample size is inadequate</p>	<p>“Other regulators, including the Australian Energy Regulator, have expressed considerable caution about the use of RAB multiples in regulatory decision-making. The Commission has not heeded these warnings.”<sup>37</sup></p> <p>“...we are concerned that the Commission places too much reliance on two observations of the sale of shares in regulated lines companies at an apparent premium over the value of the regulated assets in the financial accounts ... there are too many unknowns and that these approaches should not be relied upon to support a quantitative decision.”<sup>38</sup></p> <p>“The Commission refers to one instance where the RAB multiple is below 1, one instance where the RAB multiple is statistically equal to 1, and one instance where the RAB multiple is above 1. It is not credible to extrapolate generalisations applicable to all regulated EDBs and GPBs from that data set.”<sup>39</sup></p>

<sup>34</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 9(b)(i).

<sup>35</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 71(a).

<sup>36</sup> Incenta, Rationale for setting the regulatory WACC above the midpoint value Response to Draft Decision, August 2014, pages 2 and 3.

<sup>37</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 86(a).

<sup>38</sup> NZIER, Changing the WACC percentile Advice to MEUG regarding Commerce Commission proposal to amend the regulatory WACC for electricity line & gas pipeline services, 29 August 2014, pages 20 and 21.

<sup>39</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 40.

Rationale for lower WACC percentile	Illustration of submitter response
<p>(iv) the Commission has used the highest Vector share value</p> <p>(v) AMP Capital have confirmed the purchase of shares in Powerco was not based on assumed excess profits due to application of a 75<sup>th</sup> percentile WACC, and</p> <p>(vi) it unclear why Horizon Energy (which doesn't support the hypothesis) has been omitted or Vector's sale of Wellington Electricity (reported as 3x RAB which could not be explained by the regulated WACC).</p>	<p>"As we explain in the Appendix to this submission, the Commission's analysis is unsound; it is overly rudimentary, and, in our experience, bears no relationship to real world investment decisions. RAB multipliers in the 1 to 1.5 range tell us nothing about whether "the use of the 75th percentile of WACC to set prices is too generous". Regulators internationally have acknowledged the well known limitations on using RAB multiples as a cross check on the overall rate of return for regulated industries. As the Australian Energy Regulator has recently noted: "RAB acquisition and trading multiples have a number of limitations. These limitations have been widely acknowledged""<sup>40</sup></p> <p>"We also that note in determining the 1.33x RAB multiple for the AMP Capital purchase the Commission made "no allowance for Powerco's unregulated assets, such as Powerco Transmission Services". It is worth highlighting that at the time AMP Capital invested in Powerco we had three unregulated businesses that would have contributed to the price paid by AMP Capital ..."<sup>41</sup></p> <p>"The Commission has erroneously used an average share price value for Vector of \$2.78 as at June 2013, where Vector's average share price over this 20 trading day period was \$2.63. The \$2.78 figure is the highest ever daily closing value for Vector's share price. Additionally, the sampling periods chosen by the Commission (June and December 2013) are amongst the highest value periods for Vector's share price since Vector was listed. These factors have led the Commission to over-estimate the RAB multiple it calculates for Vector. Using almost any other period, or an average over a longer time frame, would lead to a significantly lower RAB multiple."<sup>42</sup></p>
<p><b>The Commission should not rely on an assumption that investment is currently at optimal levels. No evidence has been provided to support the Commission's assumption.</b></p>	<p>"... there is no evidence that current investment levels are at or above 'optimal' levels, and in fact no observations about investment levels have been presented that are relevant to this percentile decision"<sup>43</sup></p> <p>"The Commission's reasoning is fundamentally flawed in concluding that, because investment and reliability have not deteriorated, the current WACC percentile must be an upper-bound. Such a conclusion could only be reached if investment levels and reliability were considered to be excessive."<sup>44</sup></p>

<sup>40</sup> AMP Capital, SUBMISSION TO COMMERCE COMMISSION ON PROPOSED AMENDMENT TO THE WACC PERCENTILE FOR ELECTRICITY LINES SERVICES AND GAS PIPELINE SERVICES, 26 August 2014, paragraph 1.8.

<sup>41</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 43.

<sup>42</sup> Vector, Submission on Draft Determination to amend the WACC percentile, 29 August 2014, page 5.

<sup>43</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 7.8(c).

<sup>44</sup> HoustonKemp, Comment on the Commerce Commission's Proposed WACC Percentile Amendment, 29 August 2014, section 6.2.

Rationale for lower WACC percentile	Illustration of submitter response
<p><b>The Commission has misapplied finance/portfolio diversification theory.</b></p> <p>Portfolio diversification cannot make up for a WACC/revenue allowance that does not provide an adequate return. Investors need to expect to recover at least a normal return for each individual investment they make.</p>	<p>“Unison notes that the Commission’s analysis of the impacts of “Type I” asymmetric events is qualitative only and has only addressed the risks associated with catastrophic events ...the Commission ... is not proposing any adjustments in cash-flows for asymmetric events such as natural disasters or asset stranding ... because the proposed 67th percentile does not include any allowance for such revenue reductions, and given a positive probability of uninsurable revenue losses associated with natural disasters in New Zealand, regulated EDBs would therefore expect to earn NPV less than zero ... the Commission is not correct in its analysis of the role of investor diversification in reaching the conclusion that investors would require minimal or no compensation for bearing catastrophic event risks. Although investors can diversify their investments to reduce the risk that any single investment will fail to yield a satisfactory return, it is still a fundamental principle of finance that investments only proceed if the expected NPV of that investment exceeds zero”.<sup>45</sup></p> <p>“Investors need to expect to earn a return equal to the WACC on average, that is, after considering all positive and negative events if some or all of the consequences of a catastrophic event are going to be borne, then compensation will be required to ensure the WACC will still be earned on average. There is nothing that diversification can do to avoid this.”<sup>46</sup></p> <p>“the WACC point estimate should respond to the numerous asymmetric risks borne by the EDB under the DPP, including weather events impacting on quality targets, volume risk, technology and stranding risk, and catastrophe risk.” model”.<sup>47</sup></p> <p>“... the presence of asymmetric risks in the cash flows will have the effect of increasing the actual WACC firms must provide in order to attract capital. Not recognising this results in a regulatory WACC that will systematically undercompensate firms, reducing the incentive to invest.”<sup>48</sup></p> <p>“The Commission considers that these [asymmetric] risks are best dealt with through business cash-flows and not through the WACC IM. However, it is not sufficient to say this, as these risks are not dealt with in that way.”<sup>49</sup></p> <p>“The Commission has side-stepped (or, in the case of asymmetric risks, backtracked from) a number of its previous</p>

<sup>45</sup> Unison, SUBMISSION ON WACC PERCENTILE INPUT METHODOLOGY DRAFT DECISION, 29 August 2014, page 4.

<sup>46</sup> Incenta, Rationale for setting the regulatory WACC above the midpoint valueResponse to Draft Decision, August 2014, page 3.

<sup>47</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 133.4.

<sup>48</sup> HoustonKemp, Comment on the Commerce Commission’s Proposed WACC Percentile Amendment, 29 August 2014, page 12.

<sup>49</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 62(c)(ii).

Rationale for lower WACC percentile	Illustration of submitter response
	<p>statements that the 75th percentile is used for a range of purposes including in particular its previous statements about catastrophic risks and variations between airports in relation to parameters such as the asset beta.<sup>46</sup> Instead, it has focused solely on point (g) in its current consultation process. NZ Airports reiterates that the Commission cannot ignore the problems and uncertainty created if it continues to side-step these factors. If the Commission proceeds with amending the WACC percentile without considering or providing its views on these other matters, then there is considerable uncertainty as to whether, how and when they will be dealt with. As such, the Commission's statement that determining the percentile now will provide certainty is incorrect. What counts is certainty regarding the WACC IM as a whole, and the Commission's process and decision is undermining confidence in that respect.”<sup>50</sup></p>
<p><b>The Commission should not assume the estimate of the mid-point WACC isn't biased downwards.</b></p>	<p>“Even if one assumes that model error is not biased downwards (which it arguably is 24), that does not mean it can be ignored. If the possibility exists – which the Commission concedes that it does – this leads to uncertainty. Even if this does not systematically bias the mid-point in one direction (which, again, it arguably does) it clearly affects the distribution around the mid-point. Specifically, the distribution around the mid-point becomes wider ....</p> <p>“By its own admission, this uncertainty is not captured in the Commission’s current approach. Therefore, even if the 67th percentile is “the right answer” (which we do not believe it is), in order for a business to hope to achieve a return equal to that level, something more than the 67th percentile of the Commission’s distribution is needed because, as it concedes in the above passage (and elsewhere in the Draft Decision), that distribution is artificially narrow.</p> <p>“... If the Commission’s tries to set the WACC at the 67th percentile using its unduly narrow distribution it will, quite simply, not get the answer it is seeking. For that reason, this interdependency between the WACC distribution and the resulting uplift cannot be ignored.”<sup>51</sup></p> <p>In addition, the forward start requirement on interest rate swaps hedging debt bias the results on the down side (we estimate by 9 bps on the forward start over the WACC figure).</p>
<p><b>The Commission should not assume “other factors” such as reputation, or</b></p>	<p>“Professor Vogelsang also notes that reducing the WACC percentile to the 67th percentile allows greater scope for other "carrots" for improving reliability. As CEG points out, such carrots (or sticks) are not yet in place, so should</p>

<sup>50</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraphs 64 and 65.

<sup>51</sup> Orion, SUBMISSION ON COMMISSION'S DRAFT DECISION ON THE WACC PERCENTILE, 29 August 2014, paragraphs 37 – 39.

Rationale for lower WACC percentile	Illustration of submitter response
<p><b>other possible changes to the IMs that have not been made, can be relied on to ensure adequate investment even if the allowed WACC is inadequate.</b></p> <p>To do so would:</p> <ul style="list-style-type: none"> <li>(i) be an inappropriate use of other tools</li> <li>(ii) be contrary to Commission view that WACC percentile can be considered in isolation of other aspects of the IM, and</li> <li>(iii) mean the Commission was relying on assumptions about decisions/changes it has not made.</li> </ul>	<p>have no impact on the choice of percentile.”<sup>52</sup></p> <p>“The Commission is taking a "pick and choose" approach to where it considers interdependencies and interactions are relevant or irrelevant. There is no logical or principled basis for its position that some interdependencies are relevant, but others are not. For example, the Commission states that there are no interdependencies with other aspects of the regulatory regime that prevent it from amending the WACC percentile now, which appears to directly contradict its view expressed elsewhere in the draft decision that it has considered other broader aspects of the overall regime.”<sup>53</sup></p> <p>“The last data set referred to by the Draft Decision as justifying lowering the WACC percentile is a “range of other factors”, including investors’ long-term ownership interests, suppliers’ need to credibly forecast expenditure in future price resets, and the desire of Board and management to ensure the lights do not go out. It is difficult to know what is being suggested here. If the suggestion is that the Commission can set a WACC that is less than appropriate, relying on these “other factors” to maintain investment levels, this misunderstands investor incentives. Over the long run investors must earn an appropriate return on capital invested. Considerations such as brands and the size of a customer base are means to that end, but they are not a substitute for that end. If over the long run the Commission under-compensates investors, investors will not keep making losses in the interests of a brand or keeping the lights on. This requirement for a long run return is the very essence of the choice of a private sector model rather than a public sector or charity model”.<sup>54</sup></p>

<sup>52</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 57.

<sup>53</sup> NZ Airports Association, Submission on Commerce Commission's proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraph 61(c).

<sup>54</sup> Powerco, Proposed amendment to the WACC percentile for electricity lines services and gas pipeline services, 29 August 2014, paragraphs 82 and 83.



## APPENDIX B: COPY OF LETTER TEXT – ADDITIONAL INFORMATION

11 September 2014

Brett Woods  
Senior Analyst  
Regulation Branch  
Commerce Commission

By email: brett.woods@comcom.govt.nz

Dear Brett,

### WACC percentile review: Frontier model interface

As part of our recent submission on the WACC percentile review we included a report by Frontier Economics on their adaptation of the Dobbs loss function analysis.

In our submission we offered to make the model code available to the Commission for audit and, if required, to engage Frontier to produce a user friendly Excel interface for the model (which is written in the programming language 'r').

Last week the Commission asked Transpower to provide the model code, which the Commission published on 5 September, and to engage Frontier to produce the Excel interface. Frontier has completed the Excel interface and today we have provided the interface (and installation and operation instructions) to the Commission.

### A step change – but further work is still required

We believe that Frontier's work, coupled with robust inputs, can narrow the bounds of and better inform that judgement to a greater degree than any of the evidence put to the Commission to date.

Although Frontier's work, and the model we have provided today, represents a step change in the evidence available to the Commission we recognise (and Frontier has also acknowledged) that this report reflects the first iteration of an application of the Dobbs model to the New Zealand electricity sector.

We also recognise that, while many of the modelling inputs could be estimated with some degree of accuracy (or were factual), some inputs had to be assumed and need to be tested (some empirically). In our view the model and some of the modelling inputs should be consulted on and would benefit from industry debate. Unfortunately these avenues simply were not available to us or Frontier during the consultation period.

Our understanding is that the Commission will publish the material that we have provided today. We consent (as does Frontier) to this.

The model and interface are relatively straight forward to install and operate. However, we are available as required to respond to questions and to participate in any subsequent workshops. We can arrange for Frontier to assist if necessary (please note that the lead modeller Frontier's modelling team will be unavailable from early October for several weeks).