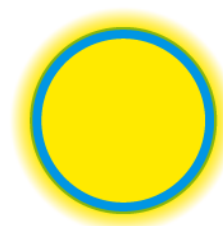


1 May 2014

Dr Mark Berry
Chair
Commerce Commission
Wellington 6140

cc Brett Woods (Senior Analyst)
[Sent by email to: regulation.branch@comcom.govt.nz]

POWERCO



Dear Mark,

**Further work on the cost of capital input methodologies
Process update and invitation to provide evidence on the WACC percentile.**

1. This letter responds to the Commission's paper: 'Further work on the cost of capital input methodologies: Process update and invitation to provide evidence on the WACC percentile' (31 March 2014) (Consultation Paper).
2. Powerco supports the submission made by the Electricity Networks Association.
3. In addition to this submission made on behalf of Powerco, we have also commissioned independent expert advice from NERA (Greg Houston, Carol Osborne and Brendan Quach) aimed specifically at providing an international perspective on the rationale for setting the regulatory WACC above an (unbiased) midpoint estimate. NERA has been made aware of the Code of Conduct for Expert Witnesses in the High Court Rules regarding the independent advice of economic experts.

Executive summary

4. Powerco appreciates that the Commission has to respond to the discussion of the use of the 75th percentile in the High Court judgment on the merit appeals. However we disagree with the way in which the Commission is proposing to respond.
5. In this submission Powerco makes the following points:
 - 5.1 The best response is a full explanation of the Commission's WACC decision, including
 - (a) the bias in the mid-point estimate;
 - (b) that the 75th percentile was used to respond to several concerns;
 - (c) the fact that internationally regulators commonly respond to similar concerns in a similar way, and

- (d) that the Commission confirmed by robust cross-checks the reasonableness of using the 75th percentile.

This would demonstrate the concerns regarding the 2015 DPP reset are ill-founded;

- 5.2 If, however, the Commission wanted to review its decision, then a full review of the WACC calculation (including all of the reasons for using the 75th percentile) is the review option that is credible and consistent with good regulation. Such a review could target the 2017 review of the input methodologies;
- 5.3 This out of cycle review of the WACC IM threatens to undermine the reputation of the Part 4 regime. It is a very serious step to propose an out of cycle review of the WACC. Such a move runs directly contrary to what international investors look for when considering where to place their capital. As emphasised in the submissions by QIC and AMP Capital, this has the potential to directly undermine the confidence of investors in New Zealand regulated businesses, raising the costs to New Zealand consumers in the long-term;
- 5.4 The timetable proposed in the Consultation Paper, both for this stage where empirical work on the asymmetric risk of error was requested and for the work the Commission proposes to complete this year, is inadequate and does not allow for a sufficient consultation opportunity. Further, the Consultation Paper signals that the default position has already changed to the median without any consultation. More fundamentally, given how the WACC IM decision was made, a decision in isolation now to move away from the 75th percentile would render the remaining WACC IM internally inconsistent;
- 5.5 The analysis proposed in the Consultation Paper would be heavily reliant on estimates and assumptions, and is likely to result in a range and not a definitive point estimate. The Commission risks committing the industry to a complicated, disputatious and expensive process that ultimately lands in a way that requires the Commission to exercise its judgment in a very similar way to how it made its WACC IM decision.

The observations of the High Court

6. This process is a response to the observations of the High Court. For that reason it is important to be accurate as to what the High Court said in its judgment.
7. The High Court:
- 7.1 Proceeded on the basis that the mid-point estimate was “right” and free from bias, and the use of the 75th percentile creates the likelihood that regulated suppliers will earn excess returns;¹
- 7.2 Assumed the sole justification for the 75th percentile was the asymmetric impact of error;²
- 7.3 Noted that a number of independent experts had advised that, in their opinion the 75th percentile (at least) should be used as a response to the asymmetric impact of error,³ amounting to strong support;⁴

¹ Paragraphs 1458 to 1460

² Paragraph 1460

- 7.4 Nevertheless questioned what it saw as a lack of empirical support for that justification;⁵
- 7.5 Suggested that this approach was unusual internationally;⁶
- 7.6 Raised some “tentative in-principle arguments” against using the 75th percentile, but also noted there was no empirical support for those arguments (nor support from independent experts).⁷
8. The High Court concluded that its questions regarding empirical analysis and its tentative counter-arguments did not justify disturbing the Commission’s decision. Instead, the High Court said:⁸

....we are mindful that the IMs will be reviewed. At that time, we would expect that our scepticism about using a WACC substantially higher than the mid-point...will be considered by the Commission.

Multiple reasons for adopting the 75th percentile

9. It is helpful to compare the High Court’s characterisation of the Commission’s decision with the reasons the Commission gave for its decision.
10. In its 2010 IM Reasons Paper the Commission explained that the choice of the precise percentile estimate was informed by a number of factors. The Commission stated:⁹

The Commission’s choice over the precise percentile estimate of the cost of capital that is used for each regulatory instrument is informed by a number of factors, including considering:

- *That the purpose of Part 4 is to promote the long term benefit of consumers, including:*
 - *ensuring suppliers of regulated services have incentives to invest and innovate, which will benefit consumers over time (s 52A(1)(a));*
 - *ensuring suppliers of regulated services are limited in their ability to extract excessive profits (s 52A(1)(d));*
- *that in workably competitive markets the risks are borne by the party that is best equipped to manage these risks. That is not all risks can be passed on to the consumer and that firms will have to manage some of the risks themselves;*
- *the risk that the true (but unobservable) cost of capital is above the estimated mid-point WACC;*

³ Paragraphs 1463 to 1467

⁴ Paragraph 1470

⁵ Paragraphs 1462 to 1470

⁶ Paragraph 1477

⁷ Paragraphs 1472 to 1476, 1483

⁸ Paragraph 1486

⁹ Paragraph H11.54 of the Reasons Paper. See also paragraph 6.7.11.

- *the risk that CAPM and the simplified Brennan-Lally CAPM may underestimate the returns on low beta stocks;*
- *the risk that the use of a domestic CAPM (simplified Brennan-Lally) may lead to higher estimates of the cost of capital than the international CAPM and that international investors can be viewed as the key marginal investors;*
- *the impact on potential subsequent investment by service users and the potential impacts on dynamic efficiency; and*
- *the risk of error in estimating individual parameters of the simplified Brennan-Lally CAPM, including beta and the TAMRP. For example, the Commission has considered the risk that the values for some parameters may be above their true (but unobservable) level including, for example, the estimated asset beta, debt issuance costs.*

11. To this can be added more recent comments made by the Commission:

11.1 in its 2012 DPP Reset Decision, that the use of the 75th percentile is one reason why the Commission is confident that despite its relatively low cost approach to resetting the DPP almost all suppliers will expect to earn a normal return;¹⁰ and

11.2 in its Final Reasons Paper on the Orion CPP application:¹¹

..although the IMs do not make any explicit adjustments to the cost of capital (or provide additional cash-flow allowance) for asymmetric risk, the practical effect of using the 75th percentile WACC is to provide a buffer for catastrophic events.

12. The reasoning behind the adoption of the 75th percentile was the product of many years work by the Commission, including the input of an independent expert panel and many independent expert opinions. As the High Court noted, a large number of experts, both domestic and international, provided independent expert advice that strongly supported the Commission's reasoning.

13. The Commission had also turned its mind to whether it could take a more empirical approach to the selection of the appropriate percentile:¹²

Recently, LECG proposed that the Commission employ a 'loss function' approach to selecting an appropriate point along the range. This suggestion initially requires a loss function to be specified that depends on the ratio of harm from underestimating the WACC relative to overestimating it, and on the corresponding 'percentile' of the WACC range. The loss function is then optimised (i.e. a point is chosen along the WACC range) so as to minimise the expected loss.

Although conceptually interesting, the Commission does not favour this approach because there is no empirical data on the loss ratio. In other words, there is no

¹⁰ "Resetting the 2010-15 Default Price-Quality Paths for 16 Electricity Distributors", 30 November 2012; paragraphs 5.4 and 5.5

¹¹ *Setting the customised price-quality path for Orion NZ Ltd – Commerce Commission Final Reasons Paper*, 29 November 2013, paragraph C25

¹² "Revised Draft Guidelines: The Commerce Commission's Approach to Estimating the Cost of Capital", 19 June 2009, paragraphs 241 and 242

way to know the true form of the function, and there is no way to reliably calibrate it. Instead, the Commission would have to make large theoretical assumptions, which could have a significant impact on the final cost of capital. In the Commission's view, LECG's recommended approach is too mechanical and suggests a misplaced sense of precision and mathematical rigour. For this reason, the Commission does not propose to pursue the approach further.

14. However, contrary to the High Court's account, the Commission did not rely solely on independent expert advice. Before the Commission finalised its methodology the Commission also conducted robust reasonableness checks. The Commission's discussion is in its Reasons Paper at section 6.8, "Does the Commission's Methodology Produce Commercially Realistic Estimates of the Cost of Capital?"¹³
15. The Commission checked the reasonableness of using the 75th percentile estimate, not the mid-point. The Commission checked its 75th percentile estimates against:¹⁴
 - 15.1 current New Zealand post-tax risk-free rates and post-tax cost of corporate debt;
 - 15.2 historic and forecast estimates of the returns achieved by New Zealand investors on an investment of average risk;
 - 15.3 previous New Zealand regulatory decisions, and recent regulatory decisions in the UK and Australia;
 - 15.4 external estimates of the post-tax WACC for similar businesses, including estimates from PwC and New Zealand investment banks; and
 - 15.5 an estimate of the cost of capital using the classical CAPM (as recommended by one of the Commission's experts, Professor Myers).
16. Having completed these reasonableness checks, the Commission concluded the following about its 75th percentile estimates:¹⁵

Overall, the Commission considers this comparative information is consistent with its estimates. Therefore it strongly supports the Commission's conclusion that the cost of capital IM produces estimates of the cost of capital that are reasonable and commercially realistic. The use of commercially realistic estimates of the cost of capital under Part 4 regulation is important for ensuring that suppliers have incentives to invest and are limited in their ability to extract excessive profits.

17. Standing back, a review of the Commission's decision illustrates that the High Court's characterisation of the Commission's reasoning was incorrect in the following ways:
 - 17.1 the Commission's decision was not based on a conclusion that the mid-point estimate was "right" and free from bias. The Commission acknowledged the risk that the simplified Brennan-Lally CAPM has biases, and this was one reason for using the 75th percentile. Further, the Commission's extensive reasonableness checks confirmed that once the 75th percentile was selected the estimated WACC was "right" – not the mid-point;

¹³ Pages 169 to 174

¹⁴ Paragraph 6.8.2

¹⁵ Paragraph 6.8.10

- 17.2 for this reason, it is not correct to assume the use of the 75th percentile results in the likelihood that regulated suppliers will earn excess returns. In fact, the Commission's reasonableness checks demonstrated this was not expected; and
- 17.3 the use of the 75th percentile was not solely a response to the asymmetric impact of error. The 75th percentile was also used to respond to the risk that the simplified Brennan-Lally CAPM has biases, the risk of parameter error, and to provide a buffer for catastrophic events.
18. In the submission below we highlight further two of the High Court's mistakes:
- 18.1 NERA advises it is highly likely that the Commission's mid-point WACC is biased and under-estimates firms' required returns. This conclusion is based on empirical studies. In this regard NERA's advice endorses the Commission's IM decision and emphasises again that the High Court proceeded from an incorrect starting point;
- 18.2 NERA also advises that the Commission's approach of settling on a point above the mid-point as the appropriate WACC estimate was and continues to be consistent with international practice, contrary to the suggestion of the High Court.
19. The Commission is not required to adopt these mistakes, nor to ignore the record of how the Commission made its decision. In fact, to do so would significantly undermine confidence in the regulatory regime. But, these mistakes by the High Court are relevant to how the Commission should respond to the court's comments.
20. We discuss below the most appropriate way for the Commission to respond to the High Court's comments. We also record our concerns at continuing down the path indicated in the Consultation Paper.

The WACC mid-point estimate is biased

21. NERA advises it is highly likely that the Commission's mid-point WACC is biased and under-estimates firms' required returns.
22. This is obviously an important point. If the Commission's methodology results in a biased mid-point estimate then this is a reason for using the 75th percentile, independently of any analysis of the asymmetric impact of error. It also means that if the Commission were now to decide not to use the 75th percentile, then potentially the remainder of its WACC calculation unravels. Other measures would be needed to address the under-compensation inherent in the mid-point estimate.
23. The Commission's Reasons Paper recognised these issues. It recorded the known risks of bias as one of the reasons the Commission chose the 75th percentile. The High Court discussion ignored these issues, proceeding on the incorrect basis that the Commission's mid-point was an unbiased estimate of WACC. The High Court did not acknowledge that the Commission had chosen the 75th percentile to, among other reasons, counter-balance the risk of bias in the models it has used. Nor did the High Court acknowledge that the Commission's reasonableness checks confirmed the use of the 75th percentile was integral to arriving at an appropriate WACC.

24. NERA advises it is highly likely that the Commission's mid-point WACC underestimates firms' required returns for the following reasons:¹⁶
- 24.1 the Capital Asset Pricing Model (CAPM) has been shown to provide biased results for firms with betas that differ significantly from one. A recent study has suggested that the bias may result in the cost of equity for energy utilities being under-estimated by 400 basis points;
 - 24.2 the IMs do not compensate firms for the asymmetric risks associated with the distribution of returns being truncated on the upside without an offsetting downside truncation. Regulation prevents returns from reaching excessive levels while leaving firms exposed to the risks associated with such events as natural disasters and asset stranding; and
 - 24.3 the use of the five year debt term introduces an inconsistency in the approach to estimating the costs of equity and debt, resulting in a further downward bias in the WACC estimate.
25. These issues, in fact, pick up on the concerns of the High Court that greater regard should be had to quantitative evidence and international regulatory practice.

Bias in the CAPM

26. The concerns with the bias of the CAPM have been demonstrated in a number of empirical studies from a number of countries over a significant period. These are discussed in the NERA report. It is well established that the CAPM produces a mid-point estimate that underestimates the required return on capital for low beta companies.
27. As an example, in a 2011 review of the cost of equity for energy utilities, Chretien and Coggin conclude:¹⁷

We find that the CAPM significantly underestimates the risk premium for energy utilities compared to its historic value by an annualized average of more than 4%.

28. The Commission was aware of this bias when making its WACC IM decision. As noted above, this is one of the reasons recorded in the IM Reasons Paper for adopting the 75th percentile.

Asymmetric risks imposed by regulation

29. As NERA explains in its report, the issue of asymmetric risks is well known to the Commission. The Commission accepts that the IMs do not compensate firms for the asymmetric risks associated with major events such as natural disasters or large unexpected policy shifts, nor for stranding risks for the like (although the Commission has expressed doubts as to the extent that regulated firms face the latter risks).
30. Setting the allowable return above the midpoint WACC to some extent compensates for these risks. This point is raised by Professor Grundy in his paper earlier this year:¹⁸

¹⁶ NERA, *Determining the Appropriate Percentile for Setting the Regulatory WACC: A Report for Powerco* (April 2014) (the NERA report), Section 4

¹⁷ NERA report, page 22

When a regulator's estimate of future profits assigns no probability to stranding risk, the regulator's estimate of future profits overstates the true expected profit and a regulated business cannot expect to earn a normal return unless the regulatory building blocks somehow compensate for that risk elsewhere. One way of doing so is to set the allowed rate of return above the cost of capital.

A second such risk arises whenever a regulated entity faces the risk of a natural disaster (e.g. and earthquake) that is not recognized in the regulator's estimate of future profits. Again, the regulator's overestimate of future profits can be offset by an adjustment that sets the allowed rate of return above the cost of capital.

31. The Commission also accepts that this means that, without additional measures, investors in firms regulated by Part 4 would expect to earn less than their required rate of return. In other words, the estimated mid-point WACC under-states the required rate of return. It was in this context that the Commission stated:¹⁹

...although the IMs do not make any explicit adjustments to the cost of capital (or provide additional cash-flow allowance) for asymmetric risk, the practical effect of using the 75th percentile WACC is to provide a buffer for catastrophic events.

Use of the five year debt term

32. The third source of bias is the Commission's decision to use a five year risk-free rate in its CAPM calculation. The Commission's approach of matching the term of the risk free rate to the regulatory period, instead of the efficient debt management practice of longer term debt, has been debated at length. However the fact remains that the Commission's approach under-compensates firms for the cost of debt in practice.
33. In addition, NERA advises that the Commission's approach introduces an internal inconsistency into its WACC calculation:²⁰

When firms borrow over longer time frames, a portion of risk is transferred from equity to debt holders. Borrowing over shorter time horizons therefore involves increasing the risk to equity holders. It is inconsistent for the Commission to base the cost of equity on the costs of firms with longer debt structures and then combine this with the cost of shorter-term debt.

34. This approach consistently under-estimates firms' total cost of capital.²¹

Implications of the biased mid-point estimate

35. It is worth emphasising the significance of these points made by NERA. The Commission cannot proceed on the basis that its mid-point WACC estimate is unbiased. And, to be fair, it did not proceed on that basis in its IMs Reasons Paper. The Commission recorded the risk of this bias as one reason for using the 75th percentile.
36. This means that, before getting to the issue of asymmetric impact of error, we can say:

¹⁸ Bruce Grundy (March 2014) *The Logic and Economics Underlying the use of a 75% Rule in a Regulatory Environment*, page 2.

¹⁹ *Setting the customised price-quality path for Orion NZ Ltd – Commerce Commission Final Reasons Paper*, 29 November 2013, paragraph C25

²⁰ NERA report, page 24-25

²¹ NERA report, page 25

- 36.1 the High Court was incorrect in proceeding on the basis that the mid-point estimate was unbiased, as a matter of reflecting the decision made by the Commission, available quantitative evidence, and regulatory practice;
- 36.2 for that reason the High Court was incorrect in assuming that use of the 75th percentile would result in the over-compensation of regulated firms; and
- 36.3 the Commission cannot alter its decision to use the 75th percentile without impugning the integrity of the remainder of its WACC decision. Other decisions were made on other parts of the WACC methodology knowing they created the risk of bias, but knowing also this would be counter-balanced by use of the 75th percentile.
37. The Commission has previously indicated a preliminary view that, despite the fact there could be relevant inter-dependencies between the use of the 75th percentile and other aspects of the cost of capital IMs, these could be addressed by reasonableness checks on the WACC estimate.²²
38. This suggestion of reviewing the 75th percentile in isolation is flawed because it takes as its starting point the mistakes of the High Court identified above. The Commission did not decide that its mid-point estimate was “right” and free from bias; it had a number of reasons for selecting the 75th percentile; and it has already conducted extensive reasonableness checks to confirm the use of the 75th percentile is the right choice.

International practice

39. The High Court was mistaken in its assumption that the Commission’s use of the 75th percentile, and its use of *a priori* reasoning, was out of step internationally.
40. NERA advises that it is not unusual for regulators to choose to set the regulatory WACC at a level other than a midpoint estimate for a range of reasons.²³ In making an adjustment to respond to the qualitative assessment that the risks of under-estimating the WACC are asymmetrically high, the Commission is keeping company with:
- 40.1 Ofcom;
- 40.2 CAA (UK);
- 40.3 the Competition Commission (UK); and
- 40.4 the AER (Australia).
41. For example, the UK’s Competition Commission in the context of its 2007 determination of regulated charges for Heathrow and Gatwick Airports stated:²⁴

We believe the cost of setting a lower WACC to be higher than vice versa. If the WACC is set too low, there may be underinvestment from BAA or potentially

²² Commerce Commission: *Further work on the cost of capital input methodologies – Process update and invitation to provide evidence on the WACC percentile*, 31 March 2014

²³ NERA report, page 26

²⁴ Competition Commission (2007) *BAA Ltd: A report on the economic regulation of the London airport companies (Heathrow Airport Ltd and Gatwick airport Ltd)*, page 224.

costly financial distress. Particularly given the airport's regulatory regime it is difficult for the CAA to reduce the risks of under-investment within a regulatory period. On the other hand, if the WACC is set too high then users will pay more than they should.

42. The Chairman of the AER has also said:²⁵

...there is a need to have regard to the economic costs and risks of the potential for under and over investment by a regulated network service provider. In part, this principle relates back to the first one I have listed in that it is recognised that the economic cost of under-investment in services is greater than the economic cost of a small over-investment. This asymmetry is well understood in regulatory economics and is key to the deliberations of regulators. Again, this asymmetry is something that the AER has explicitly acknowledged and addressed as part of our rule change proposal.

43. NERA also advises that the following regulators have made more general adjustments away from the mid-point estimate of WACC:²⁶

43.1 IPART (Australia);

43.2 AER (Australia);

43.3 ESC (Australia);

43.4 Ofgem (UK);

43.5 Ofwat (UK); and

43.6 Competition Commission (UK).

44. In contrast, the exercise proposed in the Consultation Paper is highly unusual. NERA advises that:²⁷

To the best of our knowledge no regulator in New Zealand, Australia or anywhere else in the world has attempted to quantify the likely changes in social welfare from either over-estimating or under-estimating the cost of capital. The Commission and relevant stakeholders would be embarking on this task with a blank sheet.

45. NERA advises that such a task is likely to be both complex and controversial. Further, it is quite possible the Commission may conclude that the costs and benefits are not quantifiable, or at least not in any reasonable time frame.

Appropriate way forward

46. As noted above, Powerco appreciates that the Commission has to respond to the discussion of the use of the 75th percentile in the High Court's merit appeals judgment. However we do not think that the proposal in the Consultation Paper is the appropriate way to respond.

²⁵ Reeves, A (2011) *Promoting efficient investment – protecting consumers from paying more than necessary*, AER Chairman's Address, AER Public Forum, 23 November

²⁶ NERA report, pages 26 - 28

²⁷ NERA report, page 30

47. As we have emphasised in this submission, the High Court's commentary proceeded on the basis of several important mistakes about the Commission's decision. These mistakes are demonstrable by reference to the record. The expert advice from NERA emphasises the degree to which the High Court was wrong on the key points of bias in the methodology used in the WACC IM, and regulatory consensus.
48. In these circumstances, the best response is a full explanation of the Commission's WACC decision, including where the High Court commentary misses key points. The Commission should explain the serious issues of bias with the available methodology used by the Commission, the expert consensus on the issue of asymmetric impact of error, the roles played by the 75th percentile in addressing those issues, the care taken by the Commission to cross-check the reasonableness of the 75th percentile estimate, and, standing back, the nature of estimating WACC. This would demonstrate the concerns regarding the WACC IM, including regarding its use in the 2015 DPP reset, are ill-founded.
49. Explaining (and defending) its decisions is an important role for the Commission. It should communicate why the use of the 75th percentile does not over-compensate regulated businesses, and why a review of the WACC IM before the 2017 review is not needed. We think it is the most appropriate response in the current context.
50. If, however, the Commission wanted to review its decision, then a full review of the WACC calculation is required, including all of the reasons for using the 75th percentile and how the serious issues highlighted in the Commission's Reasons Paper, this submission and the attached NERA advice would be addressed if the 75th percentile was not used.
51. One of the reasons given by the Commission was to counter-balance the risk that the Commission's methodology produces a downwardly biased mid-point estimate. NERA explains that this is a significant issue. Empirical studies, regulatory and finance practice and expert analysis all strongly suggest that the WACC IM produces a materially biased mid-point estimate.
52. NERA notes that in Australia the provisions for appealing regulatory decisions in the electricity and gas sectors have recently been modified to ensure that the Competition Tribunal gives primary consideration to the reasonableness of the whole decision.²⁸
53. For these reasons, for a review to check the use of the 75th percentile to have integrity it must be significantly broader than the review proposed in the Consultation Paper. It must incorporate all of the reasons the Commission gave for adopting the 75th percentile, and the full WACC calculation.
54. If such a full review is to occur, then a project plan that targeted the 2017 review of the input methodologies is the review option that is credible and consistent with good regulatory practice.

This consultation

55. Powerco has a number of concerns with the direction proposed in the Consultation Paper.

²⁸ NERA report, page 25; See: Standing Council on Energy and Resources, *Regulation Impact Statement – Limited Merits Review of Decision-Making in the Electricity and Gas Regulatory Frameworks: Decision Paper*, 6 June 2013.

56. We are concerned the current process will bog the industry down in legal disputes. The Consultation Paper invited evidence and empirical work on the appropriate response to the asymmetric risk of error but only allowed one month. NERA advises this simply is not sufficient time, in which case the consultation process has misfired at its first step.
57. Further, the Consultation Paper proposes the Commission complete its analysis this year. Again, NERA advises that once the full complexity of the task proposed in the Consultation paper is appreciated this is unlikely to be a sufficient time period for the Commission to do a robust job, and for parties to have a sufficient opportunity to understand and test proposals and options.
58. However, the Consultation Paper seems to suggest that in the event of the timetable constraining the quality of the analysis, the default setting will now be the mid-point estimate. The suggestion that the decision to move to the mid-point has already been made, subject to an onus being satisfied this year, is alarming from a process and regulatory practice point of view.
59. More fundamentally, as explained above, the Consultation Paper proposes to review in isolation one reason among several for using the 75th percentile. This contradicts the way the Commission made its WACC decision, and any change made in isolation to move away from the 75th percentile would render the remaining WACC IM internally inconsistent.

Reputation of Part 4 regulation

60. This process could derogate from the reputation of the Part 4 regime. As the Commission is aware we have been a supporter of the Part 4 regulation. While we did not agree with every aspect of the input methodologies, we think the Commission's decisions in 2010 laid a platform for a stable regulatory regime.
61. We are troubled that the process proposed in the Consultation Paper puts that at risk. To state the obvious, the WACC is an important regulatory setting. It is a very serious step to propose an out of cycle review of the WACC. As emphasised in the submissions by QIC and AMP Capital, this has the potential to directly undermine the confidence of investors in New Zealand regulated businesses.
62. This is particularly so in the current context where, as discussed above, the problem to be solved has been very poorly framed by the High Court, and the Commission in response is proposing to change the WACC IM on the basis of a unique, highly complicated analysis to be done in an unrealistic timeframe. We don't see how the process proposed can result in a decision that is broadly accepted as credible.
63. Standing back, these issues are a function of the Consultation Paper targeting a response to the High Court discussion ahead of the 2017 review of input methodologies. This is not what the High Court expected, and it is not what investors expected.
64. The drivers for the rush seem to be concerns at locking in excess returns into the next DPP on one hand, and undermining appropriate investment incentives on the other. However the first misses the point that the 75th percentile was used to arrive at the best estimate of an appropriate return, it did not add an excess. The Commission's reasonableness checks confirmed this.

65. And the second timing concern – investment incentives – misunderstands investors. Investors focus on the overall WACC setting and the predictability of changes to that setting.
66. These two drivers that the Commission is reacting to in fact reinforce the responses to the High Court we recommend above. The best response is a full explanation of the Commission’s WACC decision, including the nature of estimating WACC and the roles played by the 75th percentile. This would demonstrate the concerns regarding the 2015 DPP reset are ill-founded.
67. If, however, the Commission wanted to review its decision, then a full review of the WACC calculation, including all of the reasons for using the 75th percentile, targeting the 2017 review of the input methodologies, is the review option that is credible and consistent with good regulation.

Empirical approach to the asymmetric risk of error

68. The Consultation Paper requests submissions providing “empirical or analytical evidence regarding the appropriate WACC percentile”. In NERA’s expert opinion the timeframe for submissions is insufficient to allow the preparation of a plausible estimate of net social costs from either under- or over-estimating the cost of capital.
69. NERA makes the following preliminary points:²⁹
 - 69.1 There is a risk the Commission has substantively underestimated the degree of complexity, uncertainty and informational intensity such analysis will necessarily involve in order for it to be meaningful and informative. In addition, any such analysis is likely to be highly controversial;
 - 69.2 There is virtually no guidance in the economic literature or the practices of other regulators regarding the application of loss functions to this particular issue;
 - 69.3 To the best of our knowledge, no regulator in New Zealand, Australia or anywhere else in the world has attempted to quantify the likely changes in social welfare from either over-estimating or under-estimating the cost of capital.
70. In the limited time allowed by the Consultation Paper, NERA has instead identified the type of framework by which such net social costs could be identified and assessed. NERA advises that determining the appropriate WACC percentile using the type of analysis envisaged would essentially involve three steps:
 - 70.1 identifying the social loss (which in itself balances costs and benefits) associated with setting the regulatory WACC at varying levels above or below the cost of capital;
 - 70.2 determining the distribution function for the cost of capital (which may differ from that of the regulatory WACC estimates, depending on any inherent bias in the Commission’s framework); and
 - 70.3 combining these two functions to determine the appropriate percentile within the Commission’s estimated WACC range.

²⁹ NERA report, page 30

71. In NERA's view, the timeline contemplated in the Notice of Intention is extremely ambitious and is unlikely to provide sufficient time to:³⁰
- 71.1 develop a framework for analysing the issues;
 - 71.2 identify the relevant data and postulate assumptions; and
 - 71.3 undertake the analysis in a transparent and rigorous manner.

72. NERA advises:³¹

A more useful objective within the timeframe set may be to explore the envisaged framework with a view to identifying:

- *the range of benefits and costs to be included in the analysis;*
- *the availability of information regarding how these costs and benefits would be affected by deviations between the regulatory and actual WACCs; and*
- *the degree of confidence the Commission expects to be able to achieve through such analysis.*

73. However even if this is done, NERA cautions:³²

The perceived rigour of undertaking an empirical evaluation of the optimal percentile should not detract from the fact that any such analysis will remain heavily reliant on a range of estimates and assumptions. Any resultant estimate will be only as meaningful as the information and assumptions underpinning it. The output of such an exercise is therefore likely to be a range for the 'optimal' percentile rather than a definitive point.

74. For this reason NERA advises:³³

Furthermore, the Commission must be mindful that no (reasonable) empirical analysis will be able to arrive at a definitive point estimate of the optimal percentile for a single firm, let alone an industry. The likely benefits of undertaking such a task should, therefore, be carefully considered.

Closing

75. It is critical that a robust, comprehensive and transparent process is followed to ensure that the key cost of capital building block, specified by the WACC IM, is consistent with the wider requirements of the Part 4 regulatory regime. Powerco acknowledges that the Commission has to respond to the discussion of the use of the 75th percentile in the High Court judgment on the merit appeals. However, as outlined in this submission, the appropriate response is for the Commission to set out a full explanation of its previous WACC decision, including explaining the known bias in the mid-point estimate, that the 75th percentile was used to respond to several concerns, the fact that internationally regulators commonly respond to similar concerns in a similar way, and that the Commission confirmed by robust cross-checks the

³⁰ NERA report, page 30

³¹ NERA report, page 5

³² NERA report, page 5

³³ NERA report, page 38

reasonableness of using the 75th percentile. This would demonstrate that any concerns regarding the 2015 DPP reset are ill-founded;

76. Powerco then encourages the Commission to undertake a full review of the Part 4 Input Methodologies in 2017, as part of the work programme previously planned.
77. Thank you for considering the points raised in this submission. Please contact Richard Fletcher on 021 730 348 if you wish to discuss any aspects of it.

Yours sincerely

A handwritten signature in black ink, consisting of a large, stylized loop at the top and several smaller, connected loops below it.

Nigel Barbour
Chief Executive