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ENA cross-submission on recent submissions to the Commerce Commission on choice of WACC percentile

Dear Sir/Madam,

This letter and appended advice from Russell McVeagh and Jeff Balchin of Incenta Economic Consulting, constitute the ENA's cross-submissions on reports commissioned by MEUG from NZIER[1] (NZIER Reliability Report) and Franks and Ogilvie[2], and the report from Professor Dobbs commissioned by the Commerce Commission[3].

NZIER's Reliability Report

As a general comment, we struggled to understand what NZIER was trying to achieve with its latest paper. It purports to provide further illustration of how a structured analysis might be conducted of the reliability impacts of under-investment using New Zealand-specific information,[4] but then neglects to provide counterfactual analysis of the impacts of under-investment, focusing only on current levels of expenditure (which is mis-interpreted) and current levels of reliability. Nevertheless, as we explain below, even on the limited analysis, further inspection of NZIER's calculations provides further support that there is a strong asymmetry of outcome, where the costs of under-investment would substantially exceed benefits to consumers of setting the WACC too low.

The NZIER Reliability Report for MEUG, builds on its earlier report, which concluded from the earlier consultation process that "very little" had been learned, but there was now much

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1 NZIER (2014) *Valuing investments in network reliability: An approach to estimating the value of reliability in electricity networks subject to WACC IM.* 9 September

2 Franks and Ogilvie (2014) *Commerce Commission Review Of WACC Percentile – Specific Legal Issues Arising From Submissions* 12 September

3 Dobbs., I.M (2014) *Proposed amendment to the WACC percentile for the Allowed Rate of Return: Comments on the Application of the Dobbs [2011] model*

4 ENA notes that it is not just reliability (SAIDI and SAIFI) that is affected by under-investment, but the provision of new services, resilience, innovation, R&D etc.

better understanding of "what we don't know". For NZIER, the submissions had highlighted that the "probability of loss" analysis was a good attempt, but it had suffered from being disconnected from New Zealand specific conditions. In light of the significant remaining uncertainty with the analytical analysis and the investments that have been observed in New Zealand over recent years, NZIER concluded that the Commission could rely more on incentive mechanisms to achieve particular reliability outcomes than a "WACC uplift"[5] and could take more time when reviewing the IMs in 2017 to come to a more evidence-based view-point. NZIER doubted that there was sufficient time remaining in this process to undertake "more robust and systematic frameworks for dealing with uncertainty and potential asymmetries of costs from errors in the estimation of WACC."

Before we address the specifics of their report, we first address NZIER criticisms of the lack of evidence for what it calls "core assumptions" that:

1. "Networks will under invest if they perceive that the regulatory WACC is less than their real WACC

2. If they under invest, consumers will be adversely affected to a greater level than the adverse effects from high prices that result from WACC uplift

3. WACC uplift is the only mechanism to encourage efficient network investments

4. WACC uplift should apply to all categories of the RAB"

ENA disputes that these factors should all be seen as "core assumptions" requiring evidence. In respect of the first, third and fourth points, evidence is not required to establish that a rational investor would seek to minimise investment in the face of inadequate returns, and would recognise the clear expropriation of sunk investments if higher WACCs only applied to some types of investments (e.g., discretionary reliability investments) and not non-discretionary renewal or safety-related replacements.

In respect of the second claimed assumption that there is a lack of evidence of asymmetries in outcomes from under-investment relative to higher prices, ENA notes that there is very strong evidence from a range of sources that consumers value electricity very highly as demonstrated by value of lost load studies, showing outage costs substantially in excess of per unit electricity prices. Indeed, putting NZIER's own analysis in context quite clearly shows this asymmetry, as we explain below.

The NZIER Reliability Report seeks to further understand how reliability may be affected by under-investment, by examining EDB's recent quality performance in the 2013 year and the quantum of investments that EDBs make under different categories of expenditure.

NZIER seeks to discredit Oxera's $1 billion social cost figure by applying estimates of the value of lost load ("VOLL") to the number of ICPs in New Zealand in different categories (e.g., residential, five largest ICPs etc). NZIER calculates that the impact on New Zealand

[5] ENA submits that NZIER's use of the term "WACC uplift" mis-characterises the situation. The term implies that the Commission is applying an uplift to the WACC when choosing something above the mid-point estimate. In fact, the real WACC is unknown and must be estimated. The Commission is choosing a point in the range of estimates of WACC which it considers will meet the objectives of Part 4. The chosen WACC will ultimately represent the Commission's estimate of the WACC required by investors to commit capital to EDBs: there is no "uplift".

consumers of outages is $279 million. This result is based on assumptions about the frequency and duration of outages affecting different customer classes, adopting assumptions of 3 hour outages for major users at a frequency of 1.4 per year and three, sixty minute outages for medium and small connections. NZIER notes that these assumptions compare to the 140 minutes average duration of outages actually observed in 2013.

NZIER comments that the $279 million current cost of outages is "no where near" Oxera's $1 billion estimate.[6] NZIER disclaim that this figure is not directly comparable to Oxera's because it is prepared on a different basis, but they note that the primary purpose of the analysis is to examine the linkages between the costs of outages and appropriate interventions to incentivise network reliability. ENA responds as follows:

1. First, we are unsure as to why the current cost of outages is a relevant consideration in considering the impacts of under-investment, unless NZIER is assuming that EDBs might invest to avoid the current level of outages if the WACC is sufficient. ENA submits that the current level of outages is not the appropriate frame of reference. The relevant issue is to establish what might happen to the frequency or duration of outages if EDBs seek to minimise investment in response to an inadequate WACC.

2. As a point of comparison, ENA notes that in 1996, outage levels (both SAIDI and SAIFI) were some 260% above current levels (and likely significantly higher given poorer data collection in 1996), so it would not be a stretch to assume that if EDBs were directly incentivised to minimise capital expenditure due to a sub-par WACC, that an annual social cost of $1 billion would be well within the realms of possibility as a result of under-investment. Moreover, an increase in the frequency of small-scale outage events would not preclude the potential for large scale, high-impact outages indicated by Oxera in its analysis. As we have previously stated, the actual impacts of under-investment and how these manifest over time would need to be subject to detailed engineering considerations that are beyond the timetable allowed for this review – a view shared by NZIER. Nevertheless, despite its limitations, NZIER's analysis does not indicate that Oxera's derived estimate of the social costs associated with outages would be unreasonable in the New Zealand environment.

In paragraphs 54 and 55 NZIER explain the basis for their view that there may not be an asymmetry in outcomes associated with under-investment, based on their assessment of the costs of outages specific to different customer groups:

> 54. Putting aside outliers for a moment this analysis is important because it illustrates the diversity in the value that is placed on lost load by consumer groups. For instance small connection points (pretty much residential) place a very low value on outages – 41 cents per minute of outage. There is of course a range around this mean that depends on the length of outage and obviously there is a range across all residential customers. The point here is that the loss values adopted for use in submissions are just not reflective of the real world New Zealand situation.
>
> 55. The small value for the largest group of customers makes for a challenging cost-benefit justification for network investment in reliability. However, we observe that given most outages occur in the distribution network that connects residences to the higher voltage

[6] NZIER (2014b) footnote 11

> sub-transmission network, it may be most efficient for networks business to continue to commit opex to outage recovery on an as-required basis in the low voltage network. Applying a general WACC uplift to all new capex and the existing assets in the RAB, justified on the basis of reliability improvements may leave residential consumers paying twice – once for the operational cost of outage recovery and a second time for a WACC uplift to all new and old capex that is of only a very small value to them.

ENA notes that NZIER provides no context for their comment that the small absolute cost of outages for residential-type consumers indicates that investment in reliability for these consumers makes any cost-benefit analysis challenging or (by inference) that reliability is not important to them to warrant investment. ENA notes that if a residential consumer experiences 3 hours of outages at 41c/min over the course of a year (per NZIER's assumptions), this amounts to a cost per consumer of $73.80. In relation to a $600-700 per annum bill for lines charges, in principle, a residential consumer would be more than willing to pay 10%-plus higher lines charges to avoid such outages.

To provide further context, ENA notes that in relation to NZIER's calculation of 41 cents per min cost of outages for residential consumers, a typical domestic consumer spending $2,500 per annum on electricity pays on average 0.5 cents per minute for their electricity, indicating a significant asymmetry in costs of outages relative to unit charges (or marginal changes in unit charges). The fundamental problem with NZIER's analysis is that by expressing outage costs on a per minute per residential consumer basis, they make the social costs seem trivial, leading to an erroneous conclusion that reliability is not important to such consumers. However, the Commission needs to recognise that while the social costs of outages at an individual level may be small, the costs of remedying them expressed in a comparable manner are orders magnitude smaller.

Overall, ENA submits that NZIER's "structured approach" to reliability analysis is flawed, and has not advanced the Commission's understanding of how reliability may be impacted by under-investment. In any event, even on NZIER's analysis, when seen in its proper context, it is clear that there is a strong asymmetry in outcomes, where the costs of an unreliable network substantially exceed marginal changes in per unit charges associated with choice of the WACC percentile.

In drawing their analysis to a conclusion, NZIER states as follows:

> The conclusions from our report to 29 August [sic] MEUG suggested that the point of that advice was two-fold;
>
> - *WACC uplift is not necessarily the right instrument for dealing with concerns about the welfare costs of reduced investment. If any additional incentive is required to safeguard consumer welfare that incentive is most likely to be found elsewhere.*
>
> - *the more fundamental point is that the Commission needs to adopt a more structured and disciplined way for thinking about its own rule-making under uncertainty. The current approach – to estimate WACC and add an adjuster motivated largely by intuition – is too ad hoc to promote certainty.*
>
> *We suggested that the interim decision is left at the mid-point and that time needs to be taken to consider the longer term issues between now and 2017 when the IM review is due.*

> This brief cross-submission provides a way forward for the Commission to adopt a more structured approach to identifying consumer welfare considerations. It could enable quantification of the potential for welfare loss using New Zealand value of lost load data and the EDB reliability data when applying accepted approaches to analysing the business case for reliability investment. These building blocks can be used immediately to inform the 67% decision and should the analysis suggest that no uplift is warranted then the Commission should feel encouraged to make that decision knowing that reliability is on a path of improvement and that demand growth is flat on the back of on-going capital investment in network capacity.
>
> We suggest here that the loss value of outages to the largest group of customers is very small and that WACC uplift is ineffective and a very costly incentive solution for this group because networks seem to mostly spend opex on an 'as required' basis when they respond to class C outages in the distribution network. Because most outages occur in the low voltage network, network performance standards may be the best incentives here, rather than a general uplift.
>
> For other groups who place a higher value on network outages, targeted capital investment using a differentiated network pricing may be a more efficient mechanism to deliver the level of reliability. We remain unconvinced that a WACC at anything other than the mid-point is the way to go at this stage.

While we would agree with NZIER that the time provided for this IM review has been insufficient to undertake the structured analysis of how reliability would change were EDBs to minimise investment as a result of an inadequate WACC, ENA strongly disagrees with the policy advocated by NZIER as an appropriate response. Professor Dobb's highlighted comments below are apposite:

> However, there is a real problem with focusing purely on consumer surplus within this type of model (and ignoring entirely the profit component of economic welfare). In the extreme, for existing assets (the existing network), consumer surplus is strictly decreasing in retail price, and hence in the choice of AROR. This point is recognised by NZIER (NZIER; para 3, page 12), but they do not then discuss the dramatic implications of the point; for existing sunk assets, the optimal solution is to reduce the AROR to zero. However, the Lally report very clearly points out this consequence (Lally; para 2, page 22, also Lally; para 2 page 20, commenting on the Covec report); in the absence of any new investment, the model would recommend complete exploitation of the sunk nature of the existing network. This is simply the age old conundrum – that **all new investment once made becomes sunk and hence potentially exploitable by the regulator. The regulatory 'compact' is about building trust that the regulator will not (after investment) exploit the sudden shift in bargaining power as new assets revert to being sunk assets. Continuing to offer an adequate return on investment on sunk assets is crucial to the 'compact' – without it, firms would not trust the regulator not to subsequently exploit the 'now sunk' new investment and hence would not invest at all**. In terms of the model, moving from putting equal weight on consumer surplus and profits to a position in which there is increased weight on consumer surplus is effectively putting some weight on being able to exploit sunk assets.[7]

NZIER would have the Commission reduce the WACC to "exploit" existing sunk investments in networks and current levels of reliability, to carry out further analysis during the 2017 IM

[7] Dobbs (2014) para 20

review. Such advocacy does not recognise how investors would legitimately respond to regulatory decision-making that reduces the WACC percentile absent the evidential basis suggested by the High Court.

The ENA reiterates its view that the Part 4 reforms were intended to provide a more certain environment for EDBs to invest within. The evidence before the Commission does not provide any strong evidential grounds to shift from the status quo, so in such circumstances the certainty aspects of the regime would be undermined if the Commission were to adopt its draft decision to reduce the WACC percentile.

Response to report from Professor Dobbs

The ENA has commissioned Jeff Balchin of Incenta Economic Consulting to review the paper from Professor Dobbs. His response is appended to this letter.

Response to opinion from Franks and Ogilvie

With the New Zealand Airports Association, we jointly instructed Russell McVeagh to review the legal opinion prepared by Franks and Ogilvie for MEUG. Their opinion is attached to this letter.

Process from here

It is apparent that there is now significant new information before the Commission arising through the submissions process and in additional reports to the Commission. The ENA submits that due process now requires the Commission to release a further draft decision for consultation due to the significance of these new matters raised and the requirement on the Commission to form views about this information and how it is to be weighted in reaching its conclusions. The Commission's initial desire to complete this process prior to the DPP/IPP resets does not over-ride the Commission's duty to consult.

The ENA is still of the view that the correct policy response should be for the WACC percentile to be reviewed along-side the other IMs when they are considered in 2017. There remain significant aspects of the wider regulatory framework (e.g., asymmetric risks associated with asset stranding and catastrophic events) that have not been empirically investigated in this process, which directly impact on the return required by EDBs. To change the WACC percentile now would undermine investor confidence and certainty in the regulatory framework, contrary to what Part 4 was seeking to address.

Yours sincerely

Alan Jenkins

Chief Executive
Electricity Networks Association

This letter is supported by the following EDBs:

Alpine Energy Ltd
Aurora Energy Ltd
Centralines Ltd
Eastland Network Ltd
EA Networks Ltd
Electricity Invercargill Ltd
Horizon Energy Distribution Ltd
Nelson Electricity Ltd
Network Tasman Ltd
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