SUBMISSION TO COMMERCE COMMISSION ON CHANGES TO THE INPUT METHODOLOGIES FOR ELECTRICITY DISTRIBUTORS AND TRANSPOWER DUE 5TH JULY

CREATING A NEW
ENERGY FUTURE

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EXECUTIVE SUMMARY

1. This submission outlines Vector's recommendations to the Commission for making changes to the Input Methodologies (IMs) to give effect to DPP3.

2. Our summary positions are in the following table.

Topic	***Vector view***
Our key issues	
Cash flow to support investment	• Cash flow is essential to funding efficient investment. We – like many other infrastructure businesses – are facing significant pressure to invest in our network to support consumer and other stakeholder outcomes. • Auckland growth, changing consumer use of the network, pressures on resilience, and technology trends are driving that investment need and placing demands on cash. Such demands are not unique to us; other EDBs will increasingly face similar pressures as electricity supply transitions. • The regulatory settings should be flexible enough to deal with these circumstances. Consumers' long-term interests are served by ensuring that EDBs have sufficient cash flow to fund such investment, for instance by bringing forward cost recovery to help fund investment in new assets. Regulatory settings that are not flexible risk undermining those interests. • We are concerned that the current IMs are not flexible enough. The IMs should be amended to allow EDBs to choose whether to roll-forward the RAB with or without indexation as a mechanism for moving cashflows back or forward in an NPV neutral way to better support investment needs – and, therefore, consumer interests.
Sensible revenue smoothing	• Sensible revenue smoothing supports sensible EBD behaviour. There is merit in applying a cap to year-on-year revenue increases to help manage consumer bill impacts. However, applying that cap to gross revenue, including Transpower charges and pass-throughs outside of an EDBs control, is not sensible. • Changes to the Transmission Pricing Methodology (TPM) alone could see Auckland's charges increasing by $50 million per annum or

Topic	*Vector view*
	more.[1] This alone would use up all of the 10% cap proposed by the Commission, leaving no room for any smoothing to our network charges. • The cap should therefore be defined to apply to net distribution network charges only, and explicitly exclude pass-through items such as Transpower's charges, annual inflation, and local authority rates. This would be consistent with the approach taken by other regulators such as the Australian Energy Regulator (AER). • Doing otherwise could lead to perverse outcomes where an EDB cannot recover its efficient costs – or earn a commercial return – simply because such pass-through items have increased. Not allowing such recovery would undermine confidence in the regulatory framework and deter efficient investment from being made.
Under-funding efficient investment returns	• The IM approaches for estimating forecast inflation, the cost of debt and the cost of equity significantly underfund investment, especially when there are low risk-free rates resulting in negative real risk free rates – as is the case currently. These approaches should be reviewed to remove such underfunding. • Assuming that inflation will return to the mid-point of the RBNZ's inflation target band is not realistic based on historical experience or the challenges facing monetary policy at present. • The use of a three-month debt window does not reflect how an efficient business finances its debt book. This can be addressed by adopting a trailing average approach to the cost of debt as is done by other regulators. • There also appears to be an error with how the TAMRP was estimated. The IMs should include an updated TAMRP of 7.5% as a result of the negative real risk-free environment. • The Commission should also consider whether the IM approaches for estimating forecast inflation and the costs of debt and equity need to be updated to remove the underfunding of equity and debt. • The Commission should not simply 'turn the handle' on the approach in the IMs when making its final DPP3 decision. Rather, it should first

[1] Based on the Electricity Authority's (EA's) 2016 proposals as set out in the TPM Second Issues Paper: Supplementary Consultation, 13 December 2016. The EA is expected to release its updated TPM proposals on 9 July 2019.

Topic	Vector view
	test whether the calculated WACC using that approach is sensible and would promote the long-term interests of consumers. If not, it should revise the approach and the WACC to give an outcome that does promote those interests.
Other IM suggestions	
Changes to recoverable costs	• We are pleased to see that the Commission has acknowledged the importance of innovation. However, the proposed innovation allowance is unlikely to make a material difference to EDB behaviour. • In our view, it is more important to ensure that the regulatory settings generally support network innovation, for example by minimising restrictions on EDB investment in emerging technology. • We agree that the Fire and Emergency New Zealand levy should be treated a as recoverable cost.
Reopener for unforeseeable consumer connections	• We support such a reopener – it is often very hard to forecast such connections. • The same logic also applies to other capital expenditure categories. As a minimum, the reopener should also apply to unforeseeable relocations expenditure – which like connections can be material and unforeseeable. This is especially relevant for large transport infrastructure projects requiring significant electricity asset relocations.
Pecuniary penalties	• The proposed new definition of pecuniary penalties is too broad and picks up legitimate 'business as usual' expenditure. It should be narrowed to cover the specific fines or penalties of concern to the Commission, such as any court-imposed penalties for breach of the quality standard. • Any changes to the definition must be consistent with the requirements of section 53ZB and not be applied retrospectively. • Penalties are costs to a business. These costs should therefore be reported in the information disclosures to be consistent with GAAP.
Transpower IMs	• Transpower's and EDB revenue smoothing should be considered together. Both sets of charges land on consumer bills. • As noted above, Transpower's revenue – smoothed or otherwise – should not fall within EDBs' year-on-year revenue increase cap.

INTRODUCTION

1. This submission sets out Vector's views on the Commission's 29 May 2019 Reasons paper setting out proposed amendments to the Input Methodologies (IMs) for electricity distributors (EDBs) and Transpower New Zealand Limited (Transpower). It may be publicly disclosed.

2. Vector's contact for this submission is:

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3. The Commission set out its decision-making framework in paragraph 1.11 of the Reasons paper, asking it to consider the whether the proposed amendments:

   1) Promote the Part 4 purpose in s52A of the Commerce Act (the Act);

   2) Promote the IM purpose in s52R of the Act; or

   3) Significantly reduce regulatory costs or complexity.

4. Our submission has been prepared with this framework in mind.

5. We are, however, concerned about the compressed timeframes over which to apply that framework. There was only five weeks to respond to the Reasons paper and we were also required to engage in other consultation processes running in parallel.[2] The last thing we want is to compromise our and other stakeholders' consideration of important issues. The timeline and consultation overlap has created significant resourcing pressures for Vector – which are likely to be even more challenging for smaller EDBs and other stakeholders.

6. Given the importance and materiality of the issues covered in these consultations, it is essential for the Commission to run a robust process and give adequate time and engagement avenues for interested parties to provide high-quality feedback. To address this, we urge the Commission to consider holding a targeted workshop or conference sometime in the next month for stakeholders to raise issues.

7. We look forward to engaging further with the Commission on this and our other submissions over the coming weeks.

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[2] These include submissions on the treatment of operating leases (due 10 July), cross-submissions on Transpower's individual price-quality path (IPP, due 11 July), submissions on the draft decision on the default price-quality path for EDBs (DPP3, due 18 July), and cross-submissions on the IM amendments (due 19 July). This timeline has created significant pressures for Vector, which are likely to be even more challenging for smaller EDBs and other stakeholders.

KEY ISSUES REQUIRING ADDRESSING IN THE EDB DPP INPUT METHODOLOGIES

8. Our key concerns are that the IMs:

    1) Do not allow for cash flow timing flexibility that could be used to promote consumer interests;

    2) Undermine efficient cost recovery by forcing EDBs to incorporate pass-through items (such as Transpower's charges) within their year-on-year revenue increase caps; and

    3) Include approaches for calculating the allowed weighted average cost of capital (WACC) that will under-fund equity investors in circumstances like the present where interest rates and inflation are at historically low levels.

9. These concerns are explained further below along with our proposed solutions; and supported by Attachments A, B and C.

10. Our feedback on the other proposed IM changes is included in Attachment D.

Using cashflow timing to promote consumer outcomes

11. Cash-flow is an essential consideration for businesses and other organisations. Cash flow shortages limit business activity, and in extreme cases can lead to insolvency. Neither are good outcomes where they undermine the objectives that those organisations are set up to promote.

12. In our case, we are concerned that the current IMs and draft DPP3 do not provide enough upfront cash to fund the significant capital investment that we need to make to deliver the outcomes that our consumers and other stakeholders expect of us – and which we have built into our 2019 asset management plan.[3]

13. The primary cause – from our perspective – is the deferral of capital recovery that occurs because our regulated asset base (RAB) is indexed (as required by the revaluation income IM).[4] In simple terms, indexation means that the return of

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3 Vector, March 2019, Electricity Asset Management Plan 2019 – 2029.

4 In practice, indexation has two effects in the way that building blocks revenue is calculated. First, it grows the RAB each year, which affects the return on capital and return of capital (depreciation) building blocks. Second, indexation is also treated as a negative building block that offsets that RAB increase. In effect, indexation means that the inflation return that is built into the WACC is capitalised to the RAB and paid out later in an asset's life. In our submission, reference to indexation is to *both* effects unless otherwise noted.

capital invested that would ordinarily occur earlier in an asset's life is deferred to later in life. Where an EDB needs to significantly increase capital expenditure like we do at this time and others will no doubt in the future, the approach leads to a more pronounced cash shortfall.

14. To overcome this, the IMs should be amended to allow an EDB to elect not to apply indexation to roll-forward the RAB in circumstances where doing so would better promote the long-term interests of consumers. Specifically, the IMs should allow EDBs to choose whether their RAB should be indexed or un-indexed. This would be consistent with the Commission's previous decisions to adopt an un-indexed RAB for Transpower and to give regulated NZ airports the choice over using either CPI-indexation or an un-indexed approach.[5]

15. Since the return of capital under either approach is net present value (NPV) neutral, consumers should be indifferent, whereas EDBs can select the approach that best fits with their forecast investment profile.

16. Our proposed amendments are included in Attachment B. Below we explain why the Commission should make them.

What is our concern?

17. All infrastructure businesses like us inevitably face periods of higher and lower required investment. Our concern is that the regulatory framework currently reflected in the IMs and applied in the draft DPP3 is not robust enough to support periods of higher investment by EDBs.

18. At present, we are facing an unprecedented period of connection growth, significant asset replacement expenditure (including proactive replacement programmes) along with changes in consumer behaviour and technology. Similar trends are likely to affect other parts of the country – and therefore other EDBs – at some point in the future. This is not just an issue for us. The regulatory framework should have flexibility to deal with it.

19. In our case, we need to significantly increase our capital expenditure over the DPP3 period to:

    1) Respond to and support Auckland growth – specifically, the new connections and system growth expenditure needed to facilitate new and

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[5] See, for instance: Commerce Commission, 20 December 2016, *Input methodologies review decision: Topic 1: Form of control and RAB indexation for EDBs, GDBs and Transpower* and; Commerce Commission, 20 December 2016, *Input methodologies review decision: Topic 5: Airports profitability assessment*.

existing connections and projects to support growth-related initiatives in Auckland such as light rail;

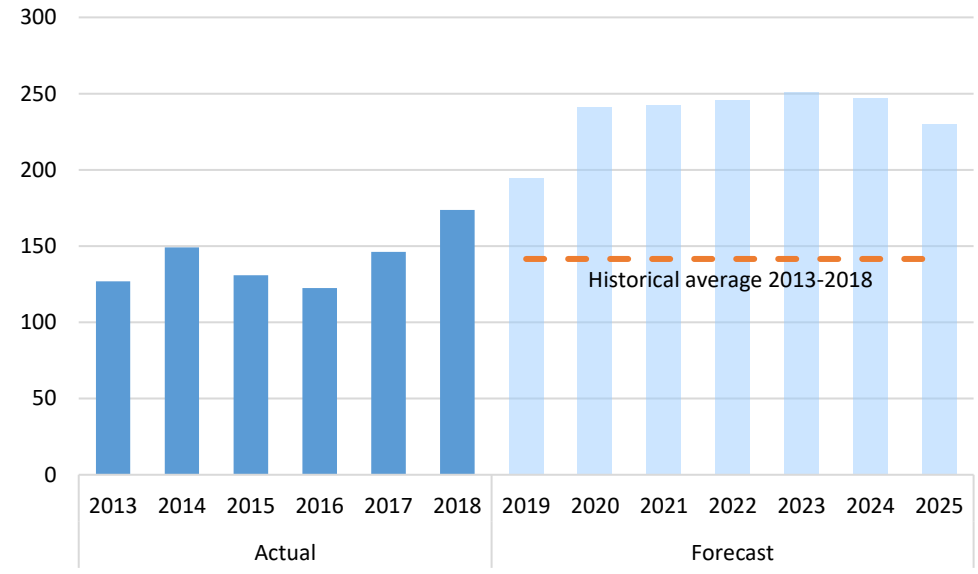
2) Evolve our network to align with our symphony scenario designed to meet changing consumer expectations and technology – this investment will allow us to flexibly and cost-effectively enhance the network to deal with two-way energy flows (e.g. resulting from solar injection and batteries), electric vehicles, and other distributed energy resources, and to more generally manage the resilience of the network; and

3) Renew and replace our assets as needed to maintain service reliability and quality.

20. Our 2019 Asset Management Plan explains further why this expenditure will promote long-term consumer interests. The step change in capital expenditure that we need to make is highlighted below in Figure 1.

21. Figure 1 – the significant and sustained increase from FY20 onwards.

Figure 1: Our capital expenditure step change ($M, $nominal)



Source: Vector, Information Disclosures and Electricity Asset Management Plan 2020 – 2030.

22. The scale of this increase is comparable to what Transpower faced, which ultimately led the Commission to adopt an un-indexed RAB. Between 2007 and 2014 Transpower spent more than $2.1 billion upgrading the transmission grid into

Auckland.[6] This included the $622m North Island 400kV Grid Upgrade Proposal and the $795m HVDC Inter-Island Link Upgrade investment proposal.[7]

23. We face a similar-sized investment program – with $1.2 billion in accommodating growth and renewing assets and our other capital priorities over the DPP3 period, or $2.8 billion over the 10-year period in our 2019 AMP. We also face similar working capital requirements – caused by delays between when we incur capital expenditure (e.g. for new developments) and when we start receiving revenues from it (e.g. because it takes time for houses to be built and consumers to move in after electricity assets are built).

24. An expenditure (or cash *out*flow) increase is not necessarily a problem, provided that it aligns with a corresponding revenue (or cash *in*flow) increase. However, based on the DPP3 draft decision, it will not.

25. We will face a significant cash shortfall if that decision remains and we seek to deliver our projected capital program. Yet, our forecast expenditure (including capital expenditure) is up by almost 100% when comparing the first year of the DPP3 period to the first year of the DPP2 period. This squeezes our cash flow.

26. This is compounded by our under-recovery over the DPP2 period where – like most EDBs – we have not recovered the allowed WACC. As shown in Figure 2, analysis by the Ministry of Business, Innovation and Employment shows sustained and material under-recovery over the last few years for most EDBs.

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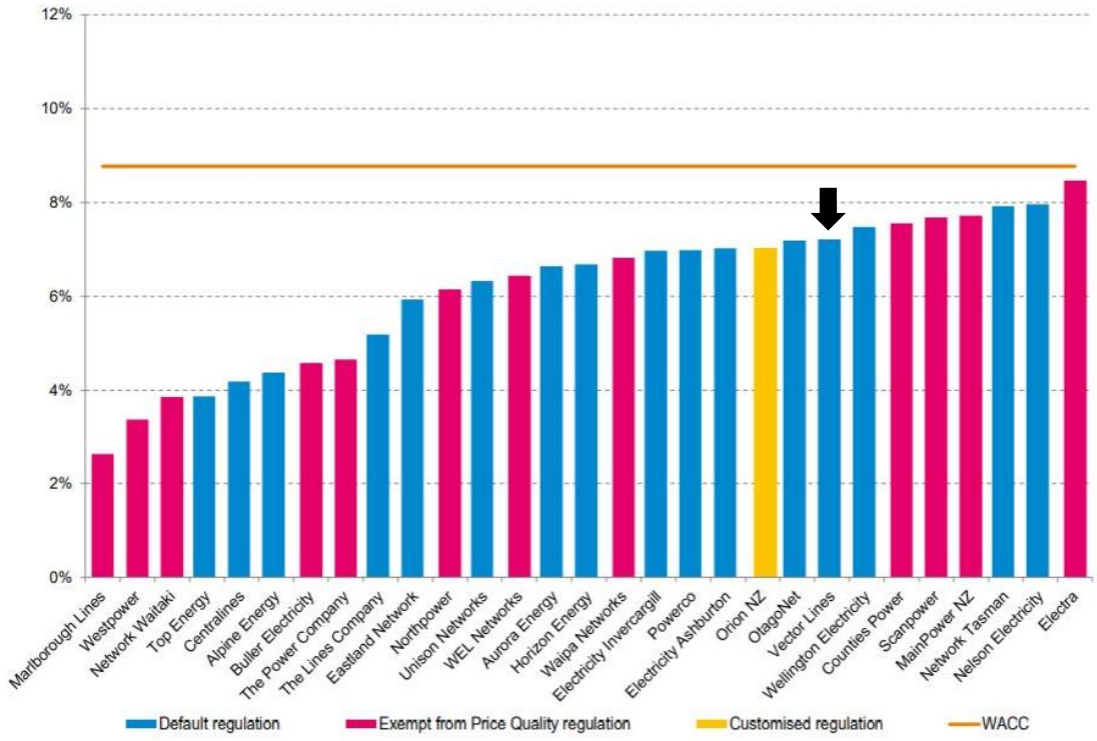
6 Electricity Pricing Review: First Report for Discussion, 30 August 2018, page 48.

7 Further discussion is available: Commerce Commission, 31 January 2006, *Intention to Declare Control: Transpower New Zealand Ltd*, p. 9.

Figure 2: EDB profitability against the allowed WACC

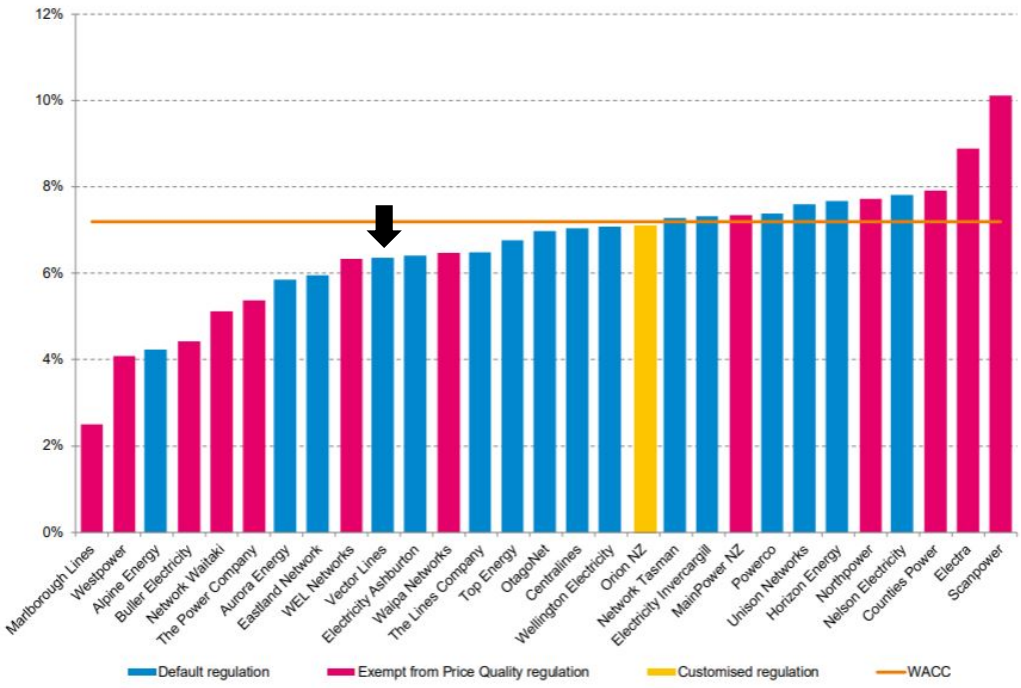
Panel A: 2013 – 2015 period

Figure 22: Distributors' profits compared with 8.77 per cent WACC (2013–15)v



Panel B: 2016 – 2017 period

Figure 23: Distributors' profits compared with 7.19 per cent WACC (2016–17)



Source: Ministry of Business, Innovation and Employment analysis of Commerce Commission data.

27. Such a cash flow squeeze on the back of existing under-recovery could undermine the financeability of the capital investment program. Rating agencies and those that lend funds are focused on whether those that borrow can repay their debt. If cash flow reduces, then lenders demand higher interest rates, shorter borrowing terms or impose more onerous lending conditions. At the extreme, lenders stop lending.

28. S&P – a rating agency – for instance, recently noted that the draft DPP3 decision would lead to lower cash flows for EDBs, reducing the ratings buffer (i.e. a signal that the risk profile has increased). This note is included as Attachment A.

29. Generally, rating agencies and lenders are also mindful of changes to the perceived risk profile of EDBs, including from technology and network use uncertainty. Such risk is compounded by cash flow squeezes.

30. These are significant concerns for us as they mean that – based on the draft DPP3 – our regulated electricity distribution business could face higher costs to fund our proposed step up in the capital programme; a programme that is designed to deliver important benefits to new and existing consumers and other Auckland stakeholders.

31. If we cannot fund it at a reasonable cost or ever obtain funds, then we would need to find other ways to manage the capital programme. For instance, we may need to:

1) Restrict or defer investment in growth areas;

2) Restrict or defer investment in asset renewals; and/or

3) Increase developer contributions and consumer capital contributions (e.g. by requiring contributions for deep augmentation costs).

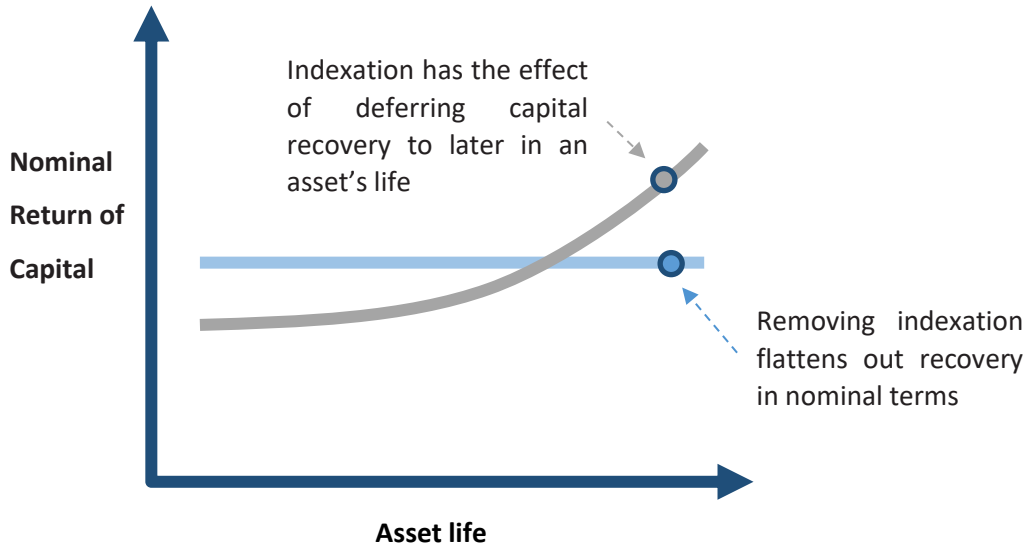
32. These options are inconsistent with the purpose of Part 4 and government policy for facilitating housing supply growth in Auckland and could undermine the Auckland Unitary Plan.

How would removing indexation help overcome this?

33. Removing indexation would bring forward the return of capital in a net present value (NPV) neutral way from both an EDB and consumer perspective – avoiding the need to look at alternative options like those noted above. No longer would the RAB be increased by inflation each year or building block revenues reduced by the same amount.

34. The profile would be flatter, but the NPV of the new (un-indexed) profile would match the old. The effect is simply to tilt the cost recovery profile as illustrated in Figure 3.

Figure 3: Illustrative tilting of capital return



35. Bringing forward the return of capital would raise building blocks revenues and therefore cash inflows in the near term. In our case, doing so would go some way

to offset the significant capital expenditure increase – thereby abating the cash flow and financeability issues discussed above.

36. Such a tilting of cash flows will help fund our capital programme.

How would adopting an un-indexed RAB benefit consumers?

37. As we make clear in our 2019 AMP, consumers (and other stakeholders) will benefit from our proposed expenditure programme, including:

    1) Maintained quality outcomes for consumers – ensuring compliance with expected quality standards and resilience of the network;

    2) Earlier connection of new consumers – decreasing average prices for everyone;

    3) Support Auckland growth initiatives such as light right – making life easier for both our consumers and other stakeholders; and

    4) Support for new technology and consumer use of our network by enabling our 'symphony scenario' as set out in our 2019 AMP.

38. Short-term bill impacts from adopting an un-indexed RAB could be mitigated via smoothing. We would expect to work with the Commission to manage any consumer bill impacts.

How does adopting an un-indexed RAB align with regulatory precedent?

39. Regulators have typically adopted RAB indexing – along with straight-line depreciation – in the past to deliver equitable and approximately cost reflective prices over time. As a wide range of sunk cost recovery profiles can maintain efficient tariffs and investment incentives over time, the primary driver has really been to promote intergenerational equity (rather than efficiency).

40. This is important because the cost recovery profile created by RAB indexing is not needed to obtain efficient outcomes. In fact, the long-term interests of consumers – we argue – are better promoted by an efficient network investment programme like that included in our 2019 AMP. The benefits of ensuring that efficient investments are not foregone or deferred is greater than any perceived reductions in equity associated with changing the timing of recovery of sunk costs.

41. In the Commission's case, RAB indexing was introduced and has been maintained to protect against inflation risk.[8] There is some logic to managing that risk – doing so can promote efficient outcomes. However, that is only one risk that should be considered.

42. In our case, a much bigger risk at the present time is 'funding risk'. Much like Transpower previously, the cash flow concerns noted above lead to a real risk that our capital programme will not be fully funded cost-effectively or funded in a sub-optimal way – e.g. through consumer contributions. This could lead to under-investment. We face a period of significant capital expenditure that will result in us facing high investment programme funding requirements – again like Transpower.

43. The costs of inefficient under-investment include, among others:

    1) Non-connection or delayed connection of new consumers – which has high costs for the few affected consumers but also likely raises the average cost of service to the existing consumer base in the longer term;

    2) Reduced resilience of the network, both to conventional issues (such as asset condition and weather) as well as to changing use of the network and technology;

    3) Poorer service quality; and

    4) Inability to support local and central government objectives, such as light rail or KiwiBuild.

44. Conversely, in the current environment with very low inflation and inflation expectations, there is little benefit from the mitigation of inflation risk – either for us or our consumers. The cost of inefficient treatment of inflation risk might manifest as an infinitesimal pricing increase (or decrease) over the case of some ideal allocation between the EDB and consumers. The costs of inefficiently deferred investment (because efficient funding cannot be secured) are much greater.

45. We – and, we contend, our consumers – do not wish to be protected from inflation risk at the cost of not being able to secure the efficient funding necessary to undertake our capital expenditure programme. At the very least there should be

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[8] See, for instance: Commerce Commission, 20 December 2016, *Input methodologies review decision: Topic 1: Form of control and RAB indexation for EDBs, GDBs and Transpower*.

the option (in the IMs) to consider the trade-off between inflation risk or the funding risk on a case by case basis.

46. In the case of Transpower, the Commission decided that funding risk exceeded inflation risk and so an unindexed RAB remained appropriate.[9] We see our present circumstances aligning with those two decisions – and so a similar regulatory approach is justified. Similar circumstances would likely apply to other EDBs in the future.

How would the mechanism work?

47. Assuming that we have made the case for at least allowing the option for an unindexed RAB, giving effect to it in the IMs is relatively straightforward.

    1) First, amend subclause 4.2.3(1) to make it subject to a new subclause (5)

    2) Second, add a new subclause 4.2.3(5) to sets out the unindexed RAB option in a similar way to the accelerated depreciation option.

48. We have set out an example of how we see the IMs being amended to allow for this option in Attachment B, which gives the EDBs the choice.

49. Once amended, an unindexed RAB could apply to an EDB that applies on a case by case basis. For the reasons noted above, we consider that that case *has* been made for us. However, we would expect to engage with the Commission further on this and look forward to doing so.

Proposal 1: Allow EDBs the option to apply an un-indexed RAB roll-forward, similar to what was done for Transpower and allowed for regulated NZ airports.

Ensuring sensible revenue smoothing

50. The Commission has proposed an IM change giving it the ability to set limits on the annual maximum increase in forecast revenue from prices. There is sense in allowing limits to help manage consumer bill shocks. However, there are significant risks if the limit is set on a gross revenue basis as currently proposed.

51. Vector and other EDBs face the possibility of large external price shocks that are beyond our control, including:

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9 Commerce Commission, 20 December 2016, *Input methodologies review decision: Topic 1: Form of control and RAB indexation for EDBs, GDBs and Transpower*, pp. 71–72.

1) Increases to Transpower's charges, for example arising from changes to the Transmission Pricing Methodology (TPM);

2) Increases to local authority rates, which is a particular risk on Vector's network given the need to fund infrastructure investment to support Auckland's rapid growth; and

3) Annual inflation changes to net allowable lines revenue.

52. These shocks could have very large impacts on costs. While the EA's latest TPM proposals have not yet been released, the previous proposal in 2016 would have raised Vector's transmission charges by $50 million per annum or more.[10] This alone would use up all of the 10% cap proposed by the Commission, leaving no room for any smoothing to our network charges. In addition, the Commission is proposing proposed a change to Transpower's IM to allow its price path to be reopened where there is a large build-up of the EV account.

53. For this reason, we recommend that the limit is defined to explicitly include pass-through items such as those set out above. If the limit is set on a gross revenue basis, there is a material risk that EDBs will be unable to recover their allowed revenue following price shocks such as those described above. This would undermine confidence in the regulatory framework and could deter efficient investments from being made.

54. Defining limits on a net rather than gross basis is also not consistent with what other regulators do. For instance, the Australian Energy Regulator applies its equivalent cap (referred to as a side constraint) on just the distribution network charges. Other costs, such as transmission charges, are subject to their own revenue caps.

55. If the Commission does proceed with defining limits on a gross revenue basis, then as a minimum, the cap should act as a 'soft' limit that simply triggers a Commission review of proposed revenue changes, similar to what is proposed for Transpower.

56. We also recommend the limit should not affect the ability of an EDB to recover IRIS benefits from the DPP2 period.

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[10] Based on the Electricity Authority's (EA's) 2016 proposals as set out in the TPM Second Issues Paper: Supplementary Consultation, 13 December 2016. The EA is expected to release its updated TPM proposals on 9 July 2019.

Proposal 2: Apply any limits on annual percentage increases in revenue to net distribution network charges, excluding pass-through items rather than a gross basis.

Avoiding the consequences of setting the allowed WACC too low

57. These are unprecedented times, where observed bond yields and actual inflation are at historically low levels – circumstances that really question the reasonableness of the approach to calculating the allowed WACC in the IM.

58. Our concern (noted above) about cash flow is compounded by concerns more generally that that approach will systematically underfund EDBs in environments like the present, where the risk-free rate is at historically low levels (negative according to the WACC IM).

59. As a minimum, the Commission should not simply 'turn the handle' on the approach in the IMs when making its final DPP3 decision. Rather, it should first test whether the calculated WACC using that approach is sensible and would promote the long-term interests on consumers. If not, it should revise the approach *and* the WACC to give an outcome that does promote those interests.

60. In the current circumstances, there are major flaws with the Commission's approach to calculating WACC – which we explain below and are supported by an expert report from Competition Economists Group (CEG), included at Attachment C.

61. We look forward to discussing these concerns and our proposed solutions further with the Commission. These concerns would be ideal topics for the proposed workshop or conference.

Why will the allowed WACC systematically underfund EDBs?

62. To understand why, it is important to first understand three key risks borne by equity investors in EDBs:

    1) **Inflation forecasting risk** – the risk that forecast inflation is higher than what actually occurs; if higher, then forecast building blocks revenues will be reduced by greater indexation than is actually allowed when it comes time to roll-forward the RAB using actual inflation (assuming that the RAB is indexed);

    2) **Cost of equity estimation risk** – the risk that the cost of equity estimate is lower than the actual cost of equity faced, e.g. because of errors or

inaccuracies in the approaches or inputs used to estimate the cost of equity; and

3) **Cost of debt estimation risk** – the risk that the cost of debt estimate is lower than the actual cost of debt faced, e.g. because there is a mismatch between the financing practices assumed in that estimate and what an efficient EBD would do in practice.

63. As residual claimants on an EDBs assets and cash flows, equity investors face all three risks. Lower inflation than forecast, or higher costs of equity or debt than allowed, mean that equity investors get lower actual returns than required.

64. Equity investors will always wear some risk – that is the nature of investment. Returns can be higher or lower than forecast. However, if they are systematically lower than what is required to attract equity investment, then that is a problem – as it would understandably dissuade such investors from funding needed capital investment.

65. We are concerned that the IMs systematically overstate inflation forecasts, and understate costs of equity and debt estimates, particularly in the current historically low-risk free rate environment. Attachment C is a report from Competition Economists Group (CEG) that explores these concerns further, focusing on how a negative real risk-free rate can undermine EDB investment.

66. For instance, CEG's concludes (at page 1) that:

> *absent a revision to the IM, unprecedent low (and negative real) bond yields along with continued forecast inflation bias may lead to equity investors expecting a nominal/real return of up to 3.9%/3.1% below that required for equivalent investment elsewhere. At these levels of under-compensation there is a real risk that otherwise efficient investment will be delayed or simply not undertaken until a change in the interest rate/inflation environment.*

67. This is supported by analysis emphasising that:

1) Inflation over-forecasting is a problem because the IMs rely on unreliable RBNZ forecasts and an unreasonable assumption that inflation will return to the mid-point of the RBNZ's inflation target band;

2) Issuing inflation-indexed debt or trading inflation swaps cannot overcome this problem due to lack of liquidity and under-funding of the costs of issuing such debt; and

3) Historically low risk-free rates are highlighting issues with the mechanical application of the cost of equity calculation approach in the IMs – which

overseas regulators have overcome by making changes to the way that the WACC is calculated.

68. Underpinning this concern is the inherent mismatch between how the costs of debt and equity are estimated using the WACC IM and how such costs are incurred in practice. If sustained, as we consider they are, such mismatches undermine confidence in the regime and incentives for efficient network investment.

Why inflation forecasts are problematic?

69. The IM approach to forecasting inflation has consistently over-forecast actual inflation, creating a real issue for EDBs like us.

70. CEG summarise the concern as follows (at page 7):

> *Absent any change in the IM forecast method, there is every reason for EDBs and their investors to expect the same levels of forecast error and under-compensation to prevail in the 2020-25 DPP unless the IM is changed…*
>
> *…Indeed, there is good reason to believe the problem to be even more pronounced for 2020-25 than over the two previous periods. This is because the RBNZ currently has much less 'ammunition' to fight below-target inflation than it did in 2015 when the IM inflation forecast was last set.*

71. There is no logic in assuming that inflation will return to the mid-point of the RBNZ's inflation target band given past experience and current monetary policy challenges.

72. The Commission previously suggested that EDBs could overcome forecasting error by issuing indexed bonds or trading inflation swaps. However, as CEG notes, this is not a real solution (at page 8):

> *…that issuing inflation indexed debt and/or trading in inflation swaps is costly. There is no deep or liquid market for these products in New Zealand and transaction costs are high.*
>
> *The IM's estimate the cost of debt based on nominal corporate bonds and provide no compensation for the costs of issuing inflation indexed debt (or trading in inflation swaps).* Given this, the Commission should reconsider its approach to forecasting inflation, particularly given how such issues compound with the mismatch between how the costs of equity and debt are calculated under the IMs with those actually incurred in practice.

How do does the prevailing risk-free rate affect required equity returns?

73. According to some theories, equity investors consider the prevailing risk-free rate when making investment decisions using an explicit mathematical relationship. Other theories disagree.

74. In practice, however, the link between the risk-free rate and required equity returns is unclear – CEG makes the point that shareholder (or equity investor) return requirements are much more complex than the simplified modelling – and assumptions – adopted in the WACC IM would suggest. Their requirements do *not* move one for one with changes in the prevailing yields on government bonds (which is used as a proxy for the risk-free rate). They are a lot more stable. Other regulators have recognised this by adjusting the way that the cost of equity allowance is determined.

75. This reality means that the simple assumption reflected in the WACC IM can and often does not hold. It also reinforces how important it is for the Commission to validate its allowed WACC for a given DPP before adopting it, rather than mechanically applying the approaches set out in the WACC IM.

76. As CEG emphasises (page 14):

> *the overwhelming response by regulators has not been to pass through historically low risk-free rates into historically low allowed returns for risky equity investment in regulated business.*

77. CEG points to examples from the UK, Europe and the US, where most economic regulators (e.g. Ofgem) have addressed this by allowing the market risk premium to vary over time in response to changes in risk-free rates, which CEG explores further.

78. The Commission should consider doing the same.

How do we actually raise debt?

79. Efficient businesses raise debt over time to support network operations and fund investment in their assets.

80. Fundraising typically involves:

    1) Short-term debt (e.g. a bank facility) that is used to cover working capital requirements; and

    2) Medium to longer term debt (e.g. notes and bonds) that is used to fund longer term investment.

81. When issuing medium to longer debt, an efficient EDB would be mindful of four key risks or costs (among others):

1) **Refinancing risk** – the risk that the cost of refinancing debt when it matures increases;

2) **Interest rate risk** – the risk that market interest rates fall after we issue debt with a fixed coupon (i.e. interest rate);

3) **Execution costs** – the costs of issuing debt, including credit rating, legal and bank fees, and underwriting costs; and

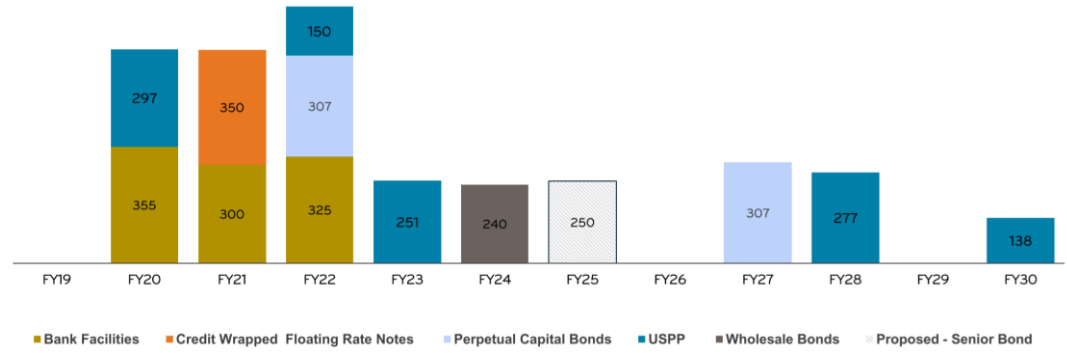
4) **Liquidity** – the availability of people willing to buy and sell our debt.

82. These considerations lead us and many other businesses to stagger debt issuance over time in medium sized quantities (e.g. $100M to $400M) to better manage refinancing and interest rate risks and reduce execution costs. If we were to issue our debt all at one time with a single maturity, then we would face significant risk that the interest rates at the time of refinancing are too high or the market is not able to support our funding needs. If we were to issue small tranches of debt, then we would likely face proportionally higher execution costs – there are bulk discounts in debt issuance too.

This practice is reflected in our debt maturity profile shown in

83. Figure *4* – where the value of debt that is maturing is shown by year over the 2019 to 2030 period. We expect to issue new debt to repay all maturing debt.

Figure 4: Vector group debt maturity profile ($M)



Note: 'USPP' means United States Private Placement. This debt is for the Vector group, so some of it is used to fund our non-EDB activities.

84. These – what we consider efficient – debt financing practices differ markedly from those implicit in the IM WACC approach. The IM assumes that *all* debt for all non-

exempt EDBs is refinanced every five years over the same three-month period (i.e. June – August 2019).

85. The assumed practice in the IM is impractical and inefficient for three key reasons (among others):

1) All non-exempt EDBs could not feasibly raise all their debt during the three-month period, nor hedge the base rate component during that period while staggering debt issuance over time;

2) Raising debt only once every five years does not allow for debt to be raised when needed to fund new investment *within* the DPP period – although debt could be raised earlier then needed, this is inefficient if done too early (e.g. you don't see people taking out loans years in advance of buying a car or house); and

3) Resetting the cost of debt only once every five years can lead to significant volatility – which is problematic for both EDBs and their consumers that face price outcomes contingent on five yearly swings in interest rates.

86. Other economic regulators have recognised these impracticalities and inefficiencies. The Australian Energy Regulator has moved *all* regulated energy networks to a trailing average approach to estimating the cost of debt, where that cost is updated each year and is estimated as an average of the past 10 year annual observations.[11] Similarly, Ofgem has used a trailing average approach for coming up to 10 years.[12] Many other regulators are now following suite.

87. The current WACC IM appears immature by comparison. For us, the mismatch between our efficient financing practices and that assumed in the WACC IM is expected to lead to a significant under-recovery per year across the DPP period – making it hard to recover our efficient costs.

88. As a minimum, the Commission should consider what are efficient debt financing practices when revising the WACC IM in the future. To better inform that review, the Commission should also consider amending the information disclosures to also collect information about the debt financing practices undertaken by EDBs. We would be happy to help scope such amendments and discuss them further at the suggested workshop or conference.

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11 See: Australian Energy Regulator, December 2013, *Rate of Return Guideline*; and Australian Energy Regulatory, December 2018, *Rate of Return Binding Instrument*.

12 See: Ofgem, October 2010, *RIIO: A new way to regulate energy networks - Final Decision*.

Proposal 3: Update the TAMRP to 7.5%.

Proposal 4: Consider amending the WACC IMs to remove the systematic under-recovery of debt and equity returns.

Proposal 5: Amend the information disclosure requirements to provide more transparency about how EDBs finance themselves to help inform future WACC IM development.

ATTACHMENT A – S&P NOTE ON IMPLICATIONS OF THE DRAFT DPP3

See attached PDF.

ATTACHMENT B – POSSIBLE IM AMENDMENTS TO FACILITATE AN UN-INDEXED RAB

By way of example, the IMs could be amended to add an option to remove indexation (or revaluation) by making two changes:

1) Amend subclause 4.2.3(1) as follows:

> *Subject to subclause (5), t~~T~~otal revaluation means the sum of revaluation for* ***existing assets*** *and* ***additional assets*** *calculated under subclause (2).*

2) Insert a new subclause 4.2.3(5) as follows:

> *For the purpose of subclause (1), the* ***Commission*** *must set total revaluation to zero, if the* ***EDB*** *has, by notice in writing to the* ***Commission*** *not later than 6 months prior to the commencement of the next* ***DPP regulatory period*** *proposed to set revaluation to zero.*

ATTACHMENT C – CEG REPORT

See Attached PDF.

ATTACHMENT D – OTHER IM SUGGESTIONS

IM clause	Commission's proposed change	Vector suggestion
New clause 4.5.5A and 4.5.5B	Introduce a new DPP reopener for 4.5.5A Unforeseeable/foreseeable major connection project 'Unforeseeable major connection project' means an EDB's project or programme that has a primary driver of meeting either: (a) Consumer connection capex demand; or (b) System growth capex demand caused by demand from a connecting party Where: (c) Expenditure on that project or programme has not been forecast for the current DPP regulatory period; (d) It would have been unforeseeable to a prudent EDB to forecast expenditure on that project or programme for the current DPP regulatory period (e) It is not practicable or appropriate for the expenditure on that project or programme to be treated entirely as a capital contribution (f) The total value of the assets forecast to be commissioned is at least 5% of that EDB's forecast net allowable revenue for the disclosure year in which the asset is forecast to be commissioned; (g) An authorised officer of the connecting party has confirmed in writing that it is committed to the project or programme and (h) Any proposed additional revenue sought will be apportioned appropriately through the EDB's pricing methodology	We support this type of re-opener being included in the IMs as it ensures that prices and revenue allowances can dynamically adjust to major and unforeseen or contingent changes in the environment or needs of the network, consumers and other stakeholders. We also consider that the rationale for providing a re-opener for unforeseeable new major connections is equally valid for other categories of capex. Relocation capex is a prime example. Driven principally by third-parties, relocations appear to meet the criteria articulated by the Commission for proposing a reopener for unforeseen major connections. Relocation activity is hard to forecast. Third-party plans such as Auckland Transport and the New Zealand Transport Agency tend not to coincide with AMP forecasting periods nor DPP setting. Activity driven by traffic authorities generally requires a standard capital contribution depending on the type of transport asset affected – however, the designation of transport assets can and do change which affects the contribution and network capex affected. Relocations could be significant over the upcoming DPP3 period given the volume of transport infrastructure development forecasted to occur. For Vector, the proposed Auckland Light Rail Transit corridor is expected to trigger a significant volume of cable relocations from 110 kV to 11 kV. At this stage,

IM clause	Commission's proposed change	Vector suggestion
	4.5.5B Foreseeable major connection project 'Foreseeable major connection project' means an EDB's project or programme that has a primary driver of meeting either: (a) consumer connection capex demand; or (b) system growth capex demand caused by demand from a connecting party, where: (c) expenditure on that project or programme has been forecast for either: (i) a disclosure year within the current DPP regulatory period or within a future DPP regulatory period; or (ii) disclosure years within the current DPP regulatory period or within a future DPP regulatory period; (d) it is not practicable or appropriate for the expenditure on that project or programme to be treated entirely as a capital contribution; (e) the total value of the assets now forecast to be commissioned accounts for at least 5% more of that EDB's forecast net allowable revenue for the disclosure year than the amount of expenditure which was originally forecast for that project or programme for that disclosure year within the current DPP regulatory period; (f) It would have been unforeseeable for a prudent EDB to have forecast prior to the current DPP regulatory period the difference between (i) the EDB's most recent forecast of the total value of the assets to be commissioned for that project or programme; and	it is unclear what designations will apply for the new LRT project – making it unclear what capex is needed to facilitate the transport changes. For these reasons, we propose – as a minimum – that the major connection re-opener is extended to also apply to major relocation projects. These amendments will promote consumer interests by ensuring that expenditure is only reflected in regulated prices and revenue if specific events have occurred, rather than included because they may occur.

IM clause	Commission's proposed change	Vector suggestion
	(ii) the EDB's forecast made prior to the current DPP regulatory period of the total value of the assets to be commissioned for that project or programme;	
3.1.3(w)	Any levy payable to Fire and Emergency New Zealand under the Fire and Emergency New Zealand Act 2017	We support the proposed change.
3.1.3(x)	An Innovation Project Allowance	We strongly support the need to encourage greater innovation by EDBs. Innovation is increasingly affecting the entire energy chain as new technologies are introduced. Networks need to keep up with these trends, otherwise they will not be able to support the innovation happening in other parts of the electricity supply chain or meet consumer expectations for improved services, lower costs, and better environmental outcomes. Overseas regulators have recognised this and developed a range of mechanisms to promote innovation by regulated businesses, often using explicit incentives. [13] We are pleased to see that the Commission has acknowledged the importance of innovation by proposing an innovation incentive mechanism in the

[13] For example, see Brattle Group's 2018 report for the ENA on the use of incentive mechanisms in EDB regulation, available here, and FTI/Compass Lexecon's 2018 report for Vector available here.

IM clause	Commission's proposed change	Vector suggestion
		form of a recoverable cost term in the EDB IMs. However, the proposed allowance is unlikely to fund any meaningful investment in innovation given its small size.[14] In our view, it is much more important to ensure that the regulatory settings generally support network innovation. In the context of rapid technological change, regulators should avoid imposing onerous restrictions on EDBs that are likely to have a chilling effect on investment and/or limit opportunities for efficient coordination across different layers of the supply chain. This is particularly important in the New Zealand context, given our small size and limited number of players in the market. Enabling the industry to meet the challenges of the new energy future requires a regulatory framework which is proportionate and considers opportunities for coordination and innovation alongside a traditional focus on competition. If the Commission does introduce an innovation allowance, it will need to be significantly larger to have a material impact. We recognise the Commission's concerns regarding the need for stricter regulatory oversight if a more generous innovation allowance

[14] The current proposal is equivalent to $5M over five years across all non-exempt EDBs. Other regulators have introduced much more generous innovation incentives – for example, in Great Britain, £61 million per year is available under Ofgem's Network Innovation Allowance (NIA), while a further £40 million per year is available under the Network Innovation Competition (NIC).

IM clause	Commission's proposed change	Vector suggestion
		were to be introduced. One possibility would therefore be to use a two-tier approach: a smaller innovation allowance with limited restrictions, similar to what the Commission is currently proposing; and an additional allowance that would need to meet stricter regulatory requirements. This would be broadly similar to the approach taken by Ofgem with its NIA and NIC, and could offer the 'best of both worlds'.
3.3.2(2)(b)(i)	Where an adjustment to the opex incentive is applicable under clause 3.3.4(1) - the amount calculated in accordance with the following formula for a disclosure year in the DPP regulatory period- $Adjustment\ to\ the\ opex\ incentive\ l - 1) \times (1 + r)\ y-1$	There appears to be an error in the formula (*Y*-1), as this would only allow recovery for three years rather than the intended four. This is contrary to the intention of the change to the IMs to allow smoothed recovery of the base year adjustment term over four years. For this to occur we recommend the formula should not be (y-1) but should be over Y (the remaining years in the regulatory period. We consider the opex incentive formula should be the same as the capex wash-up adjustment formula in 3.1.3(p).

IM clause	Commission's proposed change	Vector suggestion
3.3.11 (new IRIS model)	Publication of Capex IRIS models on 21 June 2019	The new published capex IRIS model still does not align with the requirements of the IMs in clause 3.3.11 of the IMs. It calculates the PV as at the end of the first year of the new DPP period (ie 31 March 2021). However, the IMs state that the PV must be as at *"the end of the preceding regulatory period,"* which is 31 March 2020. This impacts both the 'capex wash-up' and the 'retention adjustment' components of the capex IRIS calculation. We recommend that the Commission update its model to be consistent with the requirement of the IM.
1.1.4 (2)	Excludes pecuniary penalties from the definition of operating costs. Introduces a new definition of pecuniary penalty: *"means fines or penalties imposed by -* *(a) a court; or* *(b) by any other body with a statutory power to impose such penalties"*	In our view the present definition of costs is clear: fines and penalties are operating expenses incurred from time to time in the course of carrying out the business

IM clause	Commission's proposed change	Vector suggestion
		of conveying electricity by line.[15] There is no doubt about this current position from an accounting perspective. Therefore, this proposal should be considered as a change in the IMs rather than a clarification. As such, it must be applied consistent with the requirements of section 53ZB and must not be applied retrospectively. The proposed new wording is a broad definition that captures more than just court-imposed penalties for breaches of the quality standard. If the Commission's primary objective was to ensure that any court-imposed penalties for breach of the quality standard are not included in operating expenditure, then we strongly propose that the definition of pecuniary penalty is narrowed. EDBs are subject to liability under a wide range of statutes, such as penalties imposed by Electricity Rulings Panel, actions brought by WorkSafe, and traffic fines incurred by staff in company vehicles (e.g. speeding or parking tickets) – to name but a few. Some fines or penalties are inevitable for large businesses, including those operating in a workably competitive

[15] The definition of the lines service is set out in 54C of the Commerce Act – "the conveyance of electricity by line." Line is defined in s2(1) of the Electricity Act 1992 as "works that are used or intended to be used for the conveyance of electricity". Works are defined as "any fittings that are used, or designed or intended for use in or in connection …for the conveyance of electricity" other than an electrical installation. The effect of the definition is that any expenditure that an EDB incurs in connection with the conveyance of electricity falls within the regulated service.

IM clause	Commission's proposed change	Vector suggestion
		market. If such fines or penalties are excluded from operating expenditure allowances – because they are excluded from base opex – then those allowances would under-compensate. Moreover, the current information disclosure schedules do not specify where pecuniary penalties imposed under s87 of the Commerce Act should be recorded. We further recommend that an additional line is added to the schedules to identify such penalties. We recommend that the Commission: • Narrow the definition of pecuniary penalty to pick up the specific penalties or fines that should be excluded, such as any court-imposed penalties for breach of the quality standard. • Add a separate row or rows in the information disclosure schedules to identify and such penalties or fines. • Ensure that any changes are consistent with the requirements of section 53ZB and not be applied retrospectively.

IM clause	Commission's proposed change	Vector suggestion
Transpower IM 3.7.4(1)(a(v), 3.7.4(4)-(6), and 3.7.5(2)(b)(v)	Removing EV adjustments from the reconsideration provision but provide Transpower can reopen the IPP on the basis of a large build-up in the EV account balance. In these cases, the EV account balance would be spread over the remaining years of the regulatory period and the next revenue period.	Transpower's and EDB revenue smoothing should be considered together. Both sets of charges land on consumer bills. As noted above, Transpower's revenue – smoothed or otherwise – should not fall within EDBs' year-on-year revenue increase cap.