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Name of submitter:

Electricity Networks Association

Industry/area of interest:

Utilities/infrastructure

Contact details

Graeme Peters, Chief Executive

Address:

Level 5, Legal House

101 Lambton Quay

WELLINGTON 6011

Telephone:

64 4 471 1335

Email:

gpeters@electricity.org.nz

DPP3, April 2020 – Commission Issues paper

ENA Submission Part One: Regulating capex, opex & incentives

Final

From the Electricity Networks Association

Contents

1. Introduction

1. The Electricity Networks Association (ENA) appreciates the opportunity to make a submission to Commerce Commission (Commission) on the consultation paper; **Default price-quality paths for electricity distribution businesses from 1 April 2020, Issues paper (the Consultation paper).**

2. The ENA represents all of New Zealand's 27 electricity distribution businesses (EDBs) or lines companies, who provide critical infrastructure to New Zealand residential and business customers. Apart from a small number of major industrial users connected directly to the national grid and embedded networks (which are themselves connected to an EDB network), electricity consumers are connected to a distribution network operated by an ENA member, distributing power to consumers through regional networks of overhead wires and underground cables. Together, EDB networks total 150,000 km of lines. Some of the largest distribution network companies are at least partially publicly listed or privately owned, or owned by local government, but most are owned by consumer or community trusts.

2. Submission summary

3. The ENA feedback to the Commission is provided in the following form:

    a) This submission document, **Part One**, which includes a summary of the ENA views overall on the issues raised in the Consultation paper as well as specific feedback on DPP3 opex, capex and incentive components; and

    b) A second submission document, **Part Two**, which provides the ENA views on quality regulation in DPP3 and beyond, because members consider that the current DPP quality regulations are rapidly becoming less fit for purpose.

4. Part One and Two make up the full ENA submission and should be read together.
5. This document, Part One, brings together ENA members perspectives on the current environment that they operate in and offers evidence regarding the need for greater flexibility and adaptability in DPP regulation. It also offers ENA views on capex and opex forecasting and performance incentives, drawing on external advice that the ENA received from Brattle (on the incentive framework for EDB investments in innovation) and from Castalia (on the incentives around opex, capex and the IRIS mechanisms).[1]
6. This submission is structured around our concerns that the processes the Commission is using for setting DPPs are less suited to an environment where:

[1] The Brattle report has been provided to the Commission who published it alongside the DPP Issues paper. The Castalia report is in final draft and will be provided to the Commission early in 2019.

a) the market and technology environments are changing; and

b) consumer preferences and attitudes towards electricity are changing.

7. Some of this change is visible already and we can see EDBs adapting in response, but the DPP3 period is likely to see a significant acceleration in changing energy technology and customer preferences and will require EDBs to take on new responsibilities to adapt to these influences. The risks of EDBs not responding or responding too late to these influences must be recognised if the long-term interests of consumers are to be protected.
8. We have not attempted to duplicate the feedback that is contained in Part Two – Regulating Quality, either in summary form or in more detail. Where material from that part of the ENA submission is relevant we have referenced that detail.
9. Table 2.1 below references the paragraph number from the Commission Issues paper that are relevant to the forecasting and incentive issues, and it summarises the ENA views on the issues contained in those paragraphs.

2.1. DPP forecasts and Incentive Issues

Paragraph #	Issue recorded	ENA view
A6	Opex step changes in DPP3	EDBs are exposed to a range of new or increased opex (eg: fire service levies)
A7/A8	Retain DPP2 econometric approach to forecasting opex	This approach requires further development as trend forecasts are inaccurate
A9	Use productivity factor of 0%	An evidence-based approach is required to establish a reasonable estimate of expected partial opex productivity
A42 to A49	Level of opex inflator	Supply side pressures suggest that proposed inflator may be too low for DPP3. An expert report is recommended
B11 to B16	EDB capex forecasting is variable vs outcomes	A number of factors can impact actuals over a DPP period.
B17 to B27	Commission to apply greater scrutiny to AMP forecasts	Acknowledged but remind Commission this is a low cost DPP process, not a CPP.
B48 to B52	Retain cap on capex	Some EDBs may not be able to operate within the historical caps
B46	Capex reference period 2018 and 2019 AMPs	We recommend use of 2019 AMP forecasts for both draft and final decisions
nil	No mention of capex allowance for innovation	This is a real category of capex that will be needed in DPP3. THe Commission should consider the mechanisms outlined in Brattle's report submitted by the ENA

E6	Commission trade-off between higher capex incentive rate and lower service quality	EDBs already exposed to asymmetric QofS risk – Commission DPP3 approach could worsen this
E16 to E26	Likely that capex retention will increase due to increased scrutiny on AMPs	Reasons for capex variability in B11-B16 above is not clear, so retentions increase could place additional risks on EDBs
E27 to E28	Smooth opex incentives over DPP3 period	ENA supports this
E29 to E31	Capitalise leased assets into RAB	No specific views at this stage
F15 to F23	Demand side management incentives replaced by higher capex retention factor	ENA does not support this
F24 to F31	Mechanism to promote investment in line loss reductions	ENA does not support this

3. The context for this DPP3 reset

10. EDBs, and the electricity industry, are moving into an exciting period of rapid change spurred by the world's focus on sustainability, affordability, and customer adoption of new and emerging technology. Electricity distribution is becoming an increasingly pivotal service in society for enabling daily life choice for customers.

3.1. Decarbonisation

11. The New Zealand government has committed to the Paris Accord and a goal of net zero emissions by 2050. The focus is on a low carbon economy with a view to a sustainable world environment. Electricity is seen as a key enabler and transition 'fuel' for decarbonisation.
12. The Productivity Commission's draft report on the transition to a low carbon economy is clear that an important feature of New Zealand's pathway in response to the threat of climate change is mass uptake of electric vehicles. This was further supported by modelling released by Transpower (Energy Future / Te Mauri Hiko report).
13. Aside from emissions benefits, EVs, if managed efficiently, may also play a pivotal role in helping to support our electricity system.
14. Consumer responses in support of a low carbon economy through electrification will both introduce new forms of growth and incrementally require network investment to maintain security of supply standards.
15. EDBs must understand and monitor how these and other technologies will emerge, when that might happen, what impacts technology uptake will have on network management, and

to ensure barriers to consumer uptake are reduced (e.g., by providing efficient price structures and open network access, subject to technical standards).

3.2. Efficient Pricing

16. The government pricing review of the electricity sector announced early this year represents some uncertainty for EDBs until the panel's final recommendations are released. Importantly, ENA has a solid work programme underway on recommending ways of delivering more efficient and cost-reflective pricing structures. EDBs are progressing this work in a staged way, which is complementary to the pricing review's focus on fairness and equity (affordability). The review has a broad scope and potentially has implications for the structure, business models and approach to new technology for EDBs.

3.3. Emerging Technology and Growth

17. Emerging technology presents both uncertainty and opportunity for asset management and investment decisions by EDBs. The Commission should work in partnership with EDBs by providing incentives that support innovative and efficient approaches to asset management, system management and customer interfaces.

3.3.1. Positioning for capability

18. The IEA report raised concerns about the financial, technical, and managerial capability of the distribution sector to respond effectively to the challenges that technology change will offer.
19. EDBs recognise they need to develop the capability to adapt to a future where the digitisation of energy will involve new opportunities and responsibilities for managing network demand, new technologies and resources on networks. Accordingly, we are confident that EDBs, with the right regulatory tools, can unlock the benefits new energy resources will deliver to networks in an efficient, safe and secure manner.
20. As more emerging technologies such as PV solar and batteries are deployed by customers, the management of system stability will become more complex. This may relate to voltage variability and harmonic impacts. There is an important period for further digitisation by EDBs to deliver enhanced automation and control of field devices at both HV and LV.
21. AMPs are an important publication for clear demonstration of the approaches being used to support developing new capability through well thought out plans for the 10-year period.
22. The ENA also considers it has provided the right opportunity for industry collaboration and shared vision for the future through the ENA Smart Technology Road Map which provides a high-level view of the capability to adapt and deliver programmes of work moving forward.
23. Engaging with customers is more important than ever before and should be supported by regulatory tools which encourage this greater interaction. There is more need than before for effective customer engagement into EDB functions and there is real need to discover the

impact changing customer attitudes mean for operating practices. EDBs risk ignoring customer choice to their own detriment, however, a narrow and prescriptive regulatory framework that assumes narrowly defined outputs as being the only matters customer care about, is not supported.

3.3.2. Forecasting uncertainty

24. EDBs are concerned about the general uncertainty that exists about how and when different technology trends will affect demand. Even within the last five years media commentary has swung from a 'death spiral' story (customers going 'off grid') to a story of doubling demand (electrification of transport system). The difference between these projected outlooks are at polar ends of a spectrum and warrant very different asset management philosophies. Accordingly, EDBs are required to manage their assets with this significant uncertainty. The need for more complex scenario forecasting and the resulting unpredictability for system growth expenditure forecasting is often discussed in AMPs. This points to an overall increase in risk for EDBs, particularly where regulatory models tend to assume gradual trends.

3.3.3. Load management

25. New Zealand has long benefited from a strong load control management approach to managing peak demand. This has resulted in better cost management of the electricity system in New Zealand, compared to Australia, for example, which saw its system peaks transition from winter to summer, driven by increases in penetration of air-conditioners during the 1990s and early 2000s. The changes to the load profile limited the benefits of traditional load management techniques (such as hot water load control) leading to greater network investment and costs to consumers. The New Zealand load management model needs to be preserved and transformed in a managed way to assist overall system augmentation at efficient cost into the future.
26. EDBs have existing investment in ripple plant and relay technology that provides significant efficiency in New Zealand distribution capacity management. Hot water load management is used for both transmission and distribution level peak management.
27. As these plants are coming up for renewal, especially in the near to medium term, EDBs will need to make innovative decisions about these assets and the service they provide in the context of an emerging technology environment. The challenges afforded by emerging technologies should be a consideration for new load control techniques given the benefits of control need to be able to shape demand to limit the need for system augmentation.

3.4. Weather impacts on performance

28. Major event days caused by weather are increasing over time and this is supported by NIWA data.[2] NIWA's climate change projections for New Zealand show that the frequency of extreme winds over this century are likely to increase in winter and decrease in summer especially for the Wellington region and the South Island. The NIWA study also suggests that there will be a slow increase in serious events, i.e. less snow, but extreme wind speed and very wet days.

3.5. Managing safety

29. Safety is a fundamental aspect of managing distribution networks. The enactment of the Health and Safety at Work Act 2015 has raised awareness of the importance of and the liabilities around safety decision making in the context of risk management. This has bought to the surface several areas of concern, changes in work practices and subsequent costs that will be incurred by EDBs. These can be broken into four areas;

    a) The lack of maintenance of customer service lines

    b) A reduction in live line work

    c) Addressing legacy issues

    d) Cost of public education

30. The requirements of health and safety good practice can create challenges for the extensive work programs EDBs manage. An opportunity exists to consider reforming reliability targets to reduce further the focus of incentives on planned works and specifically to remove any disincentive to carry out planned work programmes.

3.6. Electricity (Hazards from Trees) Regulations

31. As an industry, EDBs spent an average of $43.8m over the last two disclosure years or 7.5% of operating budgets on vegetation management programmes to reduce hazards from trees impacting our operating performance.
32. Our analysis confirms that 60 to 70 percent of outages in storms were due to the impacts of trees. The increasing frequency of significant storms is an aggravating factor. As forestry areas mature, networks become increasingly exposed to damage from trees or additional costs of providing for outages to enable safe felling.
33. A frustration for EDBs is our inability to manage most trees given the restrictions of the current regulations which threaten to disrupt supply and potentially block access by special

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[2] *Scenarios of Storminess and Regional Wind Extremes under Climate Change, https://www.niwa.co.nz/our-science/climate/information-and-resources/clivar/scenarios*

vehicles and equipment required to fix downed lines. These trees have a negative impact on our expenditure and overall quality performance.

3.7. Overall conclusions

34. ENA members consider that the operating environment for EDBs presents opportunities, increased complexity, and challenges. Businesses are balancing:

    a) impending impacts from decarbonisation by our customers

    b) challenging operating conditions associated with rising customer expectations for networks to deliver more capability

    c) choices about new technology options to help better manage assets, including process digitisation and automation, with smart assets better able to provide real time information on the network or network elements.

    d) the effects of climate change or climate change mitigation measures.

35. EDBs are energised to meet these opportunities and challenges. These, in turn, represent opportunities for EDBs to deliver their services at lower cost and better quality to consumers. However, ENA members seek an enabling regulatory environment that does not downplay or dismiss the resources required to address these challenges and the short-term investment required to realise the exciting energy future ahead that can benefit consumers in the long term. A key outcome that the ENA seeks for its members from this DPP reset is a realistic reflection of the risks that EDBs face now and in the future.

4. DPP3 Components

37. This section provides ENA feedback on the DPP components that the Commission describes in Attachments A to I of the Consultation paper. As was noted in the summary at the front of this submission there is a separate Part Two submission on Attachments C and D – regulating quality of service.

38. Overall, ENA members are supportive of the Commission's approach – that is, there is a general endorsement of building on the DPP2 approach. However, the Commission should not treat this reset lightly. Our principal concern is that the Commission is proposing changes to quality of service parameters without reflecting the operating environment of EDBs. This is discussed in depth in the quality of service paper.

4.1. Forecasting operating expenditure

Commission's proposals

39. The Commission is proposing the following in respect of operating expenditure forecasts:

    a) Use of 2019 as the baseline for operating expenditure requirements (consistent with the logic of the Opex IRIS mechanism);

    b) Applying a "step and trend" approach to expenditure allowances during the regulatory period. The Commission seeks evidence of likely step changes in expenditure requirements in the 2020 to 2025 Regulatory Period;

    c) Retention of the general econometric approach to forecasting operating expenditure linked to growth drivers (network scale and customer numbers), with potential to look at more disaggregated models of network and non-network expenditure;

    d) Application of a 0% partial productivity factor;

    e) Retention of a weighted average of labour cost index and producer price index inflation; and,

    f) Possible adjustments for changes in the treatments of operating leases.

40. We discuss each of these proposals below.

ENA's responses

Baseline for operating expenditure forecasts.

41. We support the use of 2019 as the baseline for opex expenditure forecasts, noting its consistency with the opex IRIS mechanism.

Trend and step approach

42. At a high level, ENA is supportive of the trend and step approach to opex forecasts. We consider it is appropriate in the context of the intended low-cost nature of DPP Regulation.

Nevertheless, ENA notes that the Commission's opex forecasts for 2016-18 only match actual nominal operating expenditure due to actual input price inflation falling short of forecast.

43. It is also important to recognise that throughout the DPP3 period EDBs will need to further develop their innovative approaches to improving quality and efficiency. This will involve expenditure that was either not allowed for in the DPP2 period or is likely to be materially different to the expenditure on innovation and efficiency in DPP2. Trend and step approaches to forecasting opex may be less useful here.
44. Overall, the ENA remains concerned that the trend approach being applied to opex forecasts, combined with a judgement-based approach to partial productivity, will systematically under-compensate EDBs for managing the service in the prevailing operating environment. While the general framework is supported, the methods used need to be capable of replicating broad trends in operating expenditure being experienced by EDBs. The current trend model does not do this.
45. During the DPP2 regulatory period, the Commission's total nominal opex forecasts have under-forecast aggregate growth in operating expenditure by around 0.3% per annum (2015 to 2018), with a total aggregate under-forecast of 1% in the regulatory period to date. However, underlying this relatively small nominal forecast error, the Commission's trend/partial productivity approach has under-forecast by 4.7% in the period to date, with this being largely offset by forecast error in input price inflation. As the Commission notes, CPI inflation has also been much lower, so the inherent compensation for operating expenditure through revenues is effectively much lower.
46. We strongly disagree with the Commission's proposal not to depart from the approach used in DPP2 to establish the trend in opex growth and the proposal to arbitrarily determine a 0% partial productivity factor. Moreover, as was noted in feedback on DPP2, the model used to establish trend rates of growth performed very poorly in explaining movements in opex over time. This was because the model was based on explaining variances in opex *levels* between businesses, not on explaining how opex *changes* over time in response to changes in drivers. This fact was demonstrated in submissions which showed that the model performed very poorly in explaining aggregate movements in opex over time.[3] Given the continued failure of the trend model and partial productivity assumption (which differed from the evidence available from Economic Insights on trends in opex partial productivity), it is not appropriate for the Commission to continue with approaches that are quantitatively not performing.
47. We recommend that the Commission carry out further analysis of methods to forecast trends in operating expenditure, with models and assumptions validated against historical trends. Approaches that are not capable of reasonably explaining historical movements in operating expenditure should not be used.

[3] See, for example, Unison (2014) https://comcom.govt.nz/__data/assets/pdf_file/0033/62889/Unison-submission-on-proposed-DPPs-for-EDBs-2015-15-August-2014.PDF

48. We agree with the Commission that further consideration should be given to more disaggregated forecasting models, particularly non-network opex.

Step allowances

49. We support making specific allowances for identifiable step changes in operating expenditure. We also think the Commission should be clear about allowances not being made for known initiatives and activities that are likely to, or potentially may, occur in the DPP3 period, particularly where consumer benefits result.

50. For example, over the planning horizon, networks are increasingly being expected to:

    a) Have access to data for low voltage network management which is becoming a much more significant issue for networks to consider and historically a neglected part of the asset management program. It is fundamental for EDBs to have access to this information to assist with their network management programme going forward. We anticipate the costs associated with this information needs to be recognised as a legitimate expenditure going forward.

    b) Develop and implement new pricing approaches which will require extensive modelling and customer engagement initiatives. Pricing reform is recognised as having long term benefits for consumers but at this time the costs of reform efforts do not form part of the 2019 baseline expenditures and are likely to require material resource requirements going forward. The ENA has led a significant amount of research and is providing collateral to its members, but in 2019/20 the ENA will hand-off to members to undertake localised analysis and implementation. Costs associated with these activities are likely to be material;

    c) The Electricity Authority is developing its thinking in the areas of:

        i. Multiple trading relationships at the ICP level.

        ii. Networks providing open access platforms to allow for network alternatives and to facilitate "prosumer" level use of networks.

51. The commercial and technical platforms to enable the Authority's proposals do not yet exist and will require new resources, knowledge and skills within EDBs to execute such models. Again, incentives need to be incorporated into the DPP reset to support these initiatives given it will require adaptation to develop appropriate capability in addition to the traditional skills normally associated with the sector.

52. Opex step changes may occur from changes in:

    a) the Tree Regulations;

    b) Fire service levies (see further discussion at paragraphs 66+ below);

c) Treatment of customer service lines (EDB's continue to have concerns that consumers are not effectively managing their service line assets);

d) Revised industry practices resulting from reviews of procedures driven by the HSWA Act, 2015. These may include changes imposed from outside of the industry in respect of the health and safety requirements of third parties working around network assets, as well as new industry practices.

53. There is significant uncertainty about how material these issues will be, and some would need to be addressed via the reopener mechanism. We propose fire service levies become treated as pass-through costs.

54. Changes also appear likely in insurance costs and/or repair costs on uninsured assets, resulting from climate change. As noted in a recent release by the Insurance Council of New Zealand[4], climate change-related insurance pay-outs have recorded the two most expensive claims years over the past two years, in 49 years of records. Inevitably this will lead to rises in insurance premiums, but as New Zealand becomes increasingly exposed to sea-level rise and extreme climatic events, networks will be exposed to significant recovery costs. These risks are asymmetric (i.e. expose EDBs to long/fat tail risks), but there is no offsetting "anti-storm" that delivers super-low-cost years.

55. We do not foresee that there are any changes in the landscape that will result in step reductions in operating expenditure. In that respect, the risks appear to be on distributors if re-opener processes are overly restrictive. We note significant frustration that the Commission does not consider that changes in health and safety legislation met the threshold for a reopener.

Disaggregation of opex into components

56. ENA supports further analysis of the components of opex to determine whether improved forecasting models can be developed that are better linked to the drivers of expenditure in each category of expenditure. In particular, assessments of models for non-network opex should be considered, as this is a particularly challenging area to forecast. Where EDBs are substituting conventional capitalised IT services for SaaS, these models are likely to be particularly challenged, and we think the Commission should re-evaluate use of AMP forecasts of non-network opex as being more effective means of forecasting. Otherwise EDBs are in a position where a capitalised IT project included in an asset management plan can be included in the cost building blocks model, but a cheaper or more effective SaaS solution would not.

[4] See ICNZ (2018) https://www.icnz.org.nz/media-resources/media-releases/single/item/insurers-pay-226m-to-support-recovery-from-extreme-weather/

Opex partial productivity

57. The Commission's starting proposition is that a 0% opex partial productivity factor should be applied. We think it is too early to be speculating about what the number "should be". Determination of this number should be based on evidence, particularly weighted towards evidence of trends in New Zealand EDBs, and ideally be informed by an update of the work performed by Economic Insights in 2014.
58. While overseas trends are a useful qualitative input to assessing local evidence, they should not be used as the primary input to determine the relevant factor for New Zealand EDBs. The Commission seems to have a normative view that productivity growth should be positive (at worst zero), but the reality for EDBs in New Zealand is that there are significant drivers of worsening opex partial productivity:

    e) The full implications/interpretation of the HSWA are still being incorporated into our businesses (for example, emerging case law from Health and Safety prosecutions is informing new activities that need to be undertaken by EDBs).

    f) The industry is progressively working through areas of Health and Safety risk to determine appropriate practices in light of the HSWA. While high voltage live work has been addressed with industry guidelines, EDBs working with the EEA are now turning to works on low voltage networks, with potentially significant changes in practices being required to reduce risks, which may well add significant costs as a result of longer processes to isolate and prove assets are isolated. Changes in this area are likely to have far greater implications than changes to high voltage works.

    g) Increasingly, software as a service (SaaS) is the most efficient option for obtaining IT services (rather than a capitalised asset) which is affecting partial opex productivity.

    h) Increasing expectations for customer service / customer engagement, which are not measured as an output of the business but requires additional supporting resources.

    i) For some EDBs external conditions affecting their networks are increasingly challenging their productivity. For example, increased rates of motor vehicle accidents impacting on reactive maintenance costs, increasing vegetation strikes from vegetation outside of regulated cut zones, higher levels of third party interactions with the network (e.g., in heavy forest areas where maturing forests require increased shut-downs to enable safe cutting). All of these factors show up as higher costs, with no increase in measured outputs.

Input price inflation

59. The Commission has proposed that it would adopt the approach used in DPP2 to forecast opex input price inflation, using a weighted measure of forecasts of all-industries labour cost

inflation and producer price inflation. This would be in preference to seeking to forecast movements in the more sector-specific Electricity Gas Water and Wastewater indices which are more volatile.

60. The ENA agrees that it is more practical to forecast all-industry measures of input inflation, however, there does need to be a practical over-lay of factors impacting on EDBs relative to the rest of the economy. There is significant pressure on skilled labour resources within EDBs. The substantial ramp-ups in expenditure by Powerco and Aurora are competing for existing resources, with workforce planning by their contractors not addressing the significant increase in work, through matching rates of training or overseas recruitment.

61. More broadly, the Reserve Bank forecasts a modest increase in wage inflation from around 2% per annum to 2.5%, but it specifically notes that there is upside risk to that forecast (i.e., higher actual wage inflation) as the economy operates near full capacity. The RBNZ reports in its February MPS, its key assumptions, noting the following are risks to its forecasts associated with the labour market:[5]

With little slack left, capacity pressure builds as demand growth outstrips supply	Employment is around its maximum sustainable level and the output gap is close to zero. Labour force participation remains around 71% of the working age population. Unemployment rate falls to 4.2% and the output gap to reach 0.6% of potential output by 2021.
Inflation rises gradually to the 2 percent target mid-point	Non-tradables inflation increases gradually, as capacity pressure increases and the dampening effect of past low inflation gradually fades. Tradables inflation increases, but remains subdued. Pass-through of higher petrol prices into other consumer prices is limited. Wage inflation rises from around 2% in 2018 to over 2.5% by 2021. Minimum wage changes are mostly absorbed in firms' margins and have a small impact on CPI inflation.

62. Ongoing labour market pressures have been reinforced in Treasury's Half Yearly Economic and Fiscal Update.[6] New Zealand's labour market continues to operate at, or near, full capacity, with participation rates continuing at historically high levels, with little room for labour force expansion.

63. As labour costs, either directly as opex or indirectly, in the value of assets, make up a substantial proportion of EDB's annual costs, errors in wage inflation forecasts carry significant risk to EDBs. Under current labour market conditions there appears to be a material downside risk to EDBs of an under-forecast of wage inflation with little compensating upside risk that wage inflation will be lower than expectations. Macro-economic forecasters are notoriously poor at picking turning points and the modest projected uplift assumption on wage growth within Reserve Bank and Treasury forecasts represents a significant risk to EDBs, including through the impact on IRIS adjustments, as the Commission has recognised.

[5] BNZ (2018) *Monetary Policy Statement,* November 2018

[6] Treasury (2018) *Half-yearly Economic and fiscal update,* December 2018

64. The ENA recommends that the Commission obtain an expert report on forecast labour cost inflation, in the context of the outlook for EDBs, rather than simply adopt an unadjusted forecast of labour cost inflation.
65. With respect to materials inflation, we are not aware of any particular factors that are likely to cause higher inflation in the materials component of opex inflation that would vary from the rest of the economy.

Proposed new pass-through cost- Fire Service Levies

66. As noted earlier, there is considerable uncertainty about the future scale of fire service levies applying to EDBs. New levy arrangements have yet to come into force and the quantum of levy rates cannot be forecast with certainty. Historically, EDBs have been able to limit their levy payments to the value of greatest fire exposure, but this will not be possible in future, so the applicable sums insured will increase substantially to the value of insured assets, including all insured network assets. In principle, because of a widening levy base, the levy rates should see a reduction, but because FENZ does not have visibility of the base, we are unsure of whether the levy rate reduction will offset the change to sum insured.
67. Because of the uncertain outcome of the changes to levy arrangements, and the fact that they are outside of EDBs control, (and there is ongoing uncertainty about exactly when new arrangements will become effective for individual EDBs) ENA submits there are strong grounds to deduct fire service levies from opex and include these as a recoverable cost. EDBs remain incentivised to optimise their insurance sums insured, since they are exposed to the costs of insurance premiums in their opex allowances, but ENA submits that neither EDBs nor consumers should be subject to unmanageable risks of movements in fire insurance levies resulting from changes in the levy approach.

4.2. Forecasting capital expenditure

Commission's proposals

68. In contrast to the Commission's indicative proposals for opex forecasts, capex forecasts are proposed to be based on the EDB's assessment of its investment needs to manage to the required levels of reliability and to meet the demand and customer growth expected over the DPP3 period.
69. The Commission acknowledge that average capex over DPP2 (to date) across EDBs has been within range of the Commission's final allowances. However, across the group of non-exempt EDBs there have been some EDBs that have significantly underspent their capex while other EDBs have increased their capex programs. The Commission's breakdown of capex shows that replacement programs are the largest category of expenditure. This reflects programs by EDBs to replace large asset inventories over the next 10-year period.

For example, Unison and Vector have significant programs to replace 11kV conductors covering the DPP3 period.

70. For DPP3 the Commission is proposing to use Schedule 11a capex forecasts as the starting basis for determining the allowances for the next DPP. This is the most logical basis to formulate an informed view on EDB capex requirements. The alternative of developing a “bottom up” forecast of all non-exempt EDB capex requirements over the five-year DPP is an undertaking that is not contemplated by the low cost DPP framework.
71. The proposed approach for the DPP consultation process is for the Commission to use 2018 Schedule 11a AMP forecasts for the DPP draft decision but to substitute this forecast with updates Schedule 11a forecasts from 2019 AMPs or AMP updates for the updated draft decision and final decision. The ENA recommends the Commission adopt a single forecast for its entire consultation process. This opportunity will be available for the Commission as 2019 Schedule 11a forecasts will be available from 1 April 2019, well in advance of the DPP Draft Decision.

ENA’s response

72. The ENA accepts that non-exempt EDB forecasts do need to be subject to some form of scrutiny to ensure the forecasting represents a reasonable view of the anticipated investment programs of the EDBs. The principle of applying a cap based on historical actual expenditures has been well established by the Commission in DPPs. The proposal for DPP3 is to apply this cap at the category level.
73. For major categories of expenditures such as asset replacement and renewals, this approach is sensible as replacement needs are informed by processes such as asset information management and inspection regimes. Therefore, EDBs (especially those with good internal processes) can confidently estimate forecasts for this category of expenditure.
74. However, there are other categories of expenditure such as system growth and customer connections which suffer from a range of forecasting issues such as unanticipated loads wishing to connect and, increasingly, new technology influences such as decarbonisation by customers. The Commission’s “internal” and “external” drivers do not appear to address this risk as population and GDP growth are unlikely to capture the impact of a single high load customer (such as a dairy processor) creating constraint risk from switching its fuel source to electricity. As the form of control for EDBs transitions to a revenue cap for DPP3, the expenditure shortfall associated with such connections magnifies as incremental revenues from such connections cannot be obtained.
75. The ENA recommends the Commission consider practical remedies to address this type of risk such as the “listed projects” mechanism available to Transpower for its capex program. The lumpy and unpredictable nature of connections and growth expenditure also mean historic expenditures may not reveal the investment requirements needed over the DPP3

period. The ENA requests this to be a topic the Commission explores further with industry for a reasonable solution.

76. The ENA supports the proposal of a 120% cap being applied to historic forecasts for major categories of network expenditure. The Commission has indicated that it will consider forecasts exceeding the cap where a credible case is made in the EDB AMP for an allowance exceeding the cap. This is a reasonable approach that ensures the recovery of valid investment programs are not compromised because of an arbitrary cap being applied from historical spending.
77. The ENA also supports a sliding scale cap being adopted for non-network capex based on the overall significance of the category. This approach will allow EDBs that are forecasting to develop new non-network capability to support their networks. This is especially important where EDBs are increasingly facing pressures to digitalise their networks and deliver and integrate non-network type solutions that were traditionally delivered by cables, wires, poles and transformers.
78. Later in this submission we discuss the relationship between the importance of expenditure accuracy and the incentives provided by the incremental rolling incentive scheme for capex.

4.3. Network reliability

79. Please see ENA submission Part Two, Regulating quality, for our feedback on this DPP3 component.

4.4. Quality of service to customers

80. Please see ENA submission Part Two, Regulating quality, for our feedback on this DPP3 component.

4.5. Efficiency incentives

Commission's proposals

81. The Commission has proposed retaining the existing framework for encouraging capital and operating efficiency, with the primary focus on the quantum of retention factors. The Commission notes that in DPP2 the retention factor for capex was set at 15% due to concerns about using AMP forecasts of capex but recognises that submitters have noted that this causes a capex bias over opex. The Commission reasons that applying greater scrutiny to capex allowances and the increase in penalties for poor reliability might counteract stronger incentives for capital efficiency, so raising to 33% may be appropriate.
82. The Commission notes, totex approaches may be more effective in reducing the bias towards capital expenditure but would require a significant shift of approach that would not be feasible in DPP3.

83. The Commission seeks submissions on smoothing opex IRIS amounts from DPP2 during DPP3.

ENA's response

84. Overall, we consider that the Commission has identified all the relevant issues with respect to the operation of the incentive mechanisms and inter-relationships with the other aspects of the forecasting approaches. In particular, we observe that:

   a) There is a current bias towards capital expenditure due to the variations in retention factors. Removal or lessoning of this bias is becoming increasingly important to other stakeholders who would like to see greater procurement of services by EDBs (e.g., non-network alternatives to conventional network expenditure), but also to EDBs who are considering substitution of opex for capex (e.g., software as a service (SaaS) as older IT solutions are replaced;

   b) However, we hold the opposite concern to the Commission about increasing the capex retention factor. The Commission is concerned that EDBs would be excessively encouraged to defer capex to obtain benefits, but EDBs are concerned that the Commission will cap capex forecasts below efficient levels, resulting in significant capex IRIS penalties at a 33% retention factor. This risk is particularly compounded by the more than moderate risk that actual labour cost inflation will exceed forecasts. If the Commission increases EDBs' exposure to penalties under reliability incentive schemes, and/or does not adequately link planned outage targets to planned capital expenditure, then EDBs become even more exposed.

   c) The ENA requests that the Commission look further into the specific cashflows associated with the opex and capex IRIS schemes, and the risks associated with WACC's changing over time. Comparison of the headline nominal capex and opex IRIS retention factors (measured in simple NPV terms) potentially masks risks that EDBs would take on in substituting opex for capex.

   d) The ENA's view is that the Commission should consider different retention factors applying to different categories of capex:

   e) System growth capex could face a 33% retention factor, as system growth is potentially substitutable with procured non-network alternatives;

   f) Other capex a 15% retention factor, reflecting that consumers are not served well if there is too strong an incentive on EDBs to defer efficient replacement, health safety and environment expenditure.

4.6. Energy, demand-side, and losses

85. New Zealand is world leading in its operation of ripple systems for load management. This valuable service in conjunction with customer participation helps to reduce investment required in our distribution systems and as a consequence our transmission systems. As this equipment comes up for renewal the Commission should recognise the value of this service and support expenditure that maintains, enhances or delivers this service in new ways whether done in isolation or in conjunction with third parties.
86. There is a renewed focus on sustainability worldwide and attention to this by business is increasingly becoming an expectation of shareholders and customers alike. This overarching imperative of sustainability will encompass a drive for energy efficiency and demand side management but also for decarbonisation in general.
87. EDBs are also well placed to work in collaboration with customers to enable their sustainability goals for the greater good of those businesses and the wider community.
88. Consideration could be made for a cost-plus performance or cost pass through scheme that allows EDBs to seek additional distribution expenditure for projects that support both business and commercial customers to implement their decarbonisation and sustainability projects, or projects that enhance load/demand management services. There is concern from EDBs under a revenue cap that important capex projects that arise from customer decisions or become evident during the regulatory period are not accounted for by the reset revenue allowance. A scheme like this would capture some of these capex projects and allow EDBs to continue enabling New Zealand's decarbonisation objectives.
89. We do not support the inclusion of an energy losses incentive in the regulatory regime.
90. The currently disclosed loss ratio includes both technical and non-technical losses. EDBs have little or no control over non-technical losses. This reduces our influence only to technical losses. In Great Britain a revenue incentive was found not to be a suitable mechanism for loss reduction since losses were more difficult to measure than first envisaged[7].
91. We consider that we are already making appropriate analysis and optimisation of technical losses in our investment decision-making, bearing in mind that there are cost trade-offs that need to be considered.
92. To reduce technical losses further than current levels would result in only incremental benefit in loss ratio for significant additional expenditure for many EDBs. For instance, reducing resistance will require expenditure on increasing conductor size however this often leads to the need to install stronger poles and shorten span lengths. To some extent a losses incentive could compete with the incentive to not overbuild.

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[7] Brattle Group on behalf of ENA- incentive mechanisms in regulation of electricity distribution innovation and evolving business models- October 2018 page 56

93. As EDBs move to more cost reflective pricing this will provide price signals for demand reduction to retailers and customers at times when losses are highest.
94. To apply a cap and collar approach in an asymmetric manner would require defining a loss ratio % that is 'acceptable'. What is acceptable is underpinned by the type of network an EDB operates and technical constraints of equipment. Networks with substantially urban distribution systems can expect loss ratios at around half the level of networks with substantially rural distribution systems. Customer density is a factor here which impacts on the number of transformers in a system, a significant contributor to losses. More technically efficient transformers are often more expensive to purchase.
95. We consider the Commission would be better to focus on supporting EDB analysis, monitoring and expenditure on low voltage systems which could include identification of phase imbalance. Where phase imbalance exists as LV load grows organically and through the uptake of emerging technology by customers, this will, if not addressed, bring forward the requirement for reinforcement. The potential for capacity release would defer LV asset investment and this would be of greater benefit to consumers especially as the role of LV becomes more important i.e. make better use of what is already there.
96. Disclosure requirements for AMPs that include highlighting projects that would reduce distribution system losses and the related expenditure requirements would be beneficial. This would also provide information about the use of emerging technologies and provide signals to potential third-party solution providers.
97. A losses discretionary reward, like that applied by Ofgem[8] that makes funds available for projects that meet a specific focus and evaluation criteria could be a valid approach.

Non-wire alternatives

98. The proposal to increase the capex retention factor is in part to encourage EDBs to consider alternatives to capex as a response to network needs. The ENA is of the view that such an approach will not be sufficient to eliminate the bias for EDBs to consider "capex" solutions. The retention benefit will not achieve the agnostic principle the Commission is seeking.
99. Rather, regulators internationally have recognized specific non-wire alternative incentives are necessary for EDBs to adopt this type of solution for a network constraint. The incentive for non-wire alternatives will ensure EDBs can adopt solutions which are innovative and have lower long-run costs to customers and is discussed by Brattle as a necessary innovation for networks to make the transition from engineering design for network needs to alternative non-traditional solutions.

[8] Brattle Group on behalf of ENA- incentive mechanisms in regulation of electricity distribution innovation and evolving business models- October 2018 page 12

5. Appendix

The Electricity Networks Association makes this submission along with the explicit support of its members, listed below.

Alpine Energy

Aurora Energy

Buller Electricity

Centralines

Counties Power

Eastland Network

Electra

EA Networks

Horizon Energy Distribution

Mainpower NZ

Marlborough Lines

Nelson Electricity

Network Tasman

Network Waitaki

Northpower

Orion New Zealand

Powerco

PowerNet

Scanpower

The Lines Company

Top Energy

Unison Networks

Vector

Waipa Networks

WEL Networks

Wellington Electricity Lines

Westpower