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Dear Rob

Commerce Commission's priorities for the electricity distribution sector

The Electricity Retailers' Association of New Zealand (ERANZ) welcomes the opportunity to provide feedback on the Commerce Commission's (the Commission) 9 November open letter regarding the Commissions priorities for the electricity distribution sector of 2017/ 2018 and beyond.

The timing is right for the Commission's priority focus areas

Given the importance of electricity to New Zealand's economy and the lives of our customers, ERANZ believes that it is important that our electricity delivery infrastructure remains resilient, secure and affordable. We know that electricity distribution businesses (EDBs) strive to do that every day.

Consumers are more dependent on a reliable supply of electricity than ever before. Falling costs of technologies, such as home electric vehicle charging, rooftop solar, home energy storage, and smart appliances will see increasing numbers of consumers taking up those services. This will result in changing consumer needs from electricity networks, retailers and generators. This is an important time to assist networks in transitioning to become a platform provider for the different services, as well as to enable them to use technologies from the contestable market to deliver the network service as reliably and efficiently as possible.

Why electricity retailers are an interested party

Electricity retailers are a relevant, interested party to comment on EDB performance for three reasons:

(1) they are the customers of the EDBs (bar one[1]), and therefore the contract for the delivery of the service is between EDBs and retailers;
(2) retailers have a responsibility to deliver affordable prices to their customers. The lines component is a significant part of the bill and therefore they have a strong interest to see that it is efficient, reasonable, and equitable, and;
(3) a secure, resilient, and affordable network is critical to the functioning of New Zealand's electricity system.

At its core, the electricity value chain is analogous to that for other products. Consumers purchase a service from a retailer and the retailer then contracts with a delivery company for delivery of that product to the consumer. In the electricity value chain, EDBs essentially act as a delivery agent, with the delivery mechanism being an electricity distribution network rather than, say, trucks and delivery vans.

However, unlike electricity retailers, retailers of other products may not undertake detailed examination of their contracted delivery firms fleet maintenance records, investment plans, or compliance with statutory requirements. This is because, unlike most other products and services, if a delivery agent does not meet the terms of their contract, or, say, if the wheels of the delivery agent's vehicles fall off due to underinvestment, then the retailer could simply switch to an alternative delivery agent. In workably competitive markets customers use their contractual bargaining power to shop around. EDB customers (retailers) have no such contracting power. We cannot switch to an alternative electricity distribution provider (yet). This places impetus on retailers to continually scrutinise EDB performance and pricing. We strive to do this in a way that is constructive, as cross-industry collaboration is integral to enabling an effective and efficient electricity system, and the advancement of New Zealand society as a whole.

In this letter we will cover in more detail:
1. Justification for the Commission's approach and priorities.
2. Each of the four priority areas identified by the Commission.
3. Additional priorities that the Commission might consider for consumer and customer consultation, and next tier quality measures such as voltage stability.

1. Justification for the Commission's approach and priorities

The Commission's concerns align with those of other agencies

The priorities the Commission has identified align with concerns raised earlier this year by the International Energy Agency (IEA):

> *"New Zealand's electricity distribution sector is facing a period of rapid change, following the widespread deployment of advanced interval metering and the emergence of new technologies (electric vehicles, battery storage, and rooftop solar PV). These developments provide an opportunity to consider more efficient, innovative, cost-effective and responsive electricity markets throughout New Zealand,*

[1] The sole exception being The Lines Company

which can deliver a range of benefits for all electricity consumers. However, these developments also have the potential to radically transform the distribution system use and power flows, making the systems far more dynamic and complex to manage in an efficient and secure manner. Distribution businesses will be at the forefront of managing these challenges…

…Concerns have been raised about the financial, technical and managerial capability of the distribution sector to respond effectively to this challenge. Concerns have also been raised about the governance and decision-making capability of the distributors and their capacity to manage this potentially complex transition in an efficient and timely manner that will help to realise the potential benefits for consumers. Recent independent audits conducted by the Auditor General have revealed several examples of investment decisions that appear inconsistent with prudent management practices."[2]

The 2014/15 Office of the Auditor-General energy sector audits also align with the Commission's priorities:

"*Given that electricity distribution businesses are investing more in non-core operations, we encourage them to pay particular attention to the oversight of investment decisions and to risk management. This will include actively ensuring that:*

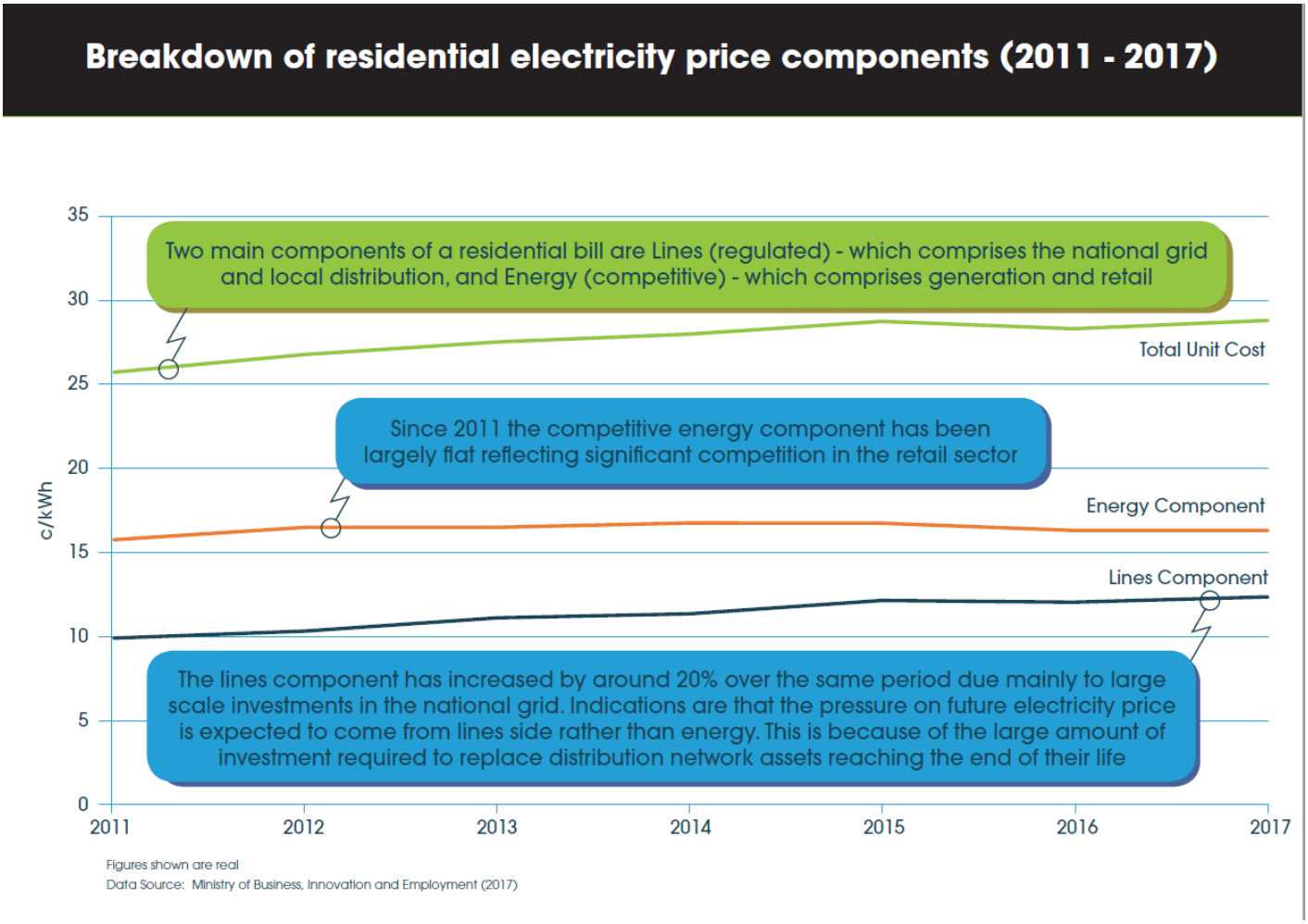
- *corporate governance and management arrangements are appropriate and robust, taking into account their increasing diversity of investments, the management of conflicts of interest, and the geographical distance of some such investments and activities from parent companies;*
- *specific decisions about investments and activities, especially non-core investments or remote activities, include consideration by directors and managers with appropriate experience and expertise;*
- *project management of capital expenditure be maintained and enhanced; and*
- *appropriate consideration be given to the time it can take to implement projects and initiatives, and then to see returns on them."*[3]

Underlying networks issues are further evidenced by emerging price pressure on the lines component of electricity costs

MBIE data shows that the lines (distribution and transmission) component of the electricity cost has been increasing at a higher rate than the competitive parts of the sector (retail and energy). Analysis indicates price pressure is building due to EDBs need to replace and maintain an aging fleet of network assets. This trend will continue. Given the importance of infrastructure investment it is timely to consider how asset management and information disclosure practices can be enhanced, and how the performance of EDBs can be better understood, for the long-term benefit of the New Zealand consumer (refer Graph 1).

[2] International Energy Agency report: Energy Policies of IEA Countries, New Zealand 2017 Review, page 16
[3] Energy Sector: Results of the 2014/15 audits – Auditor General Report to the House of Representatives, June 2016, page 23, para 3.34

Graph 1:



2. Areas of priority focus for the Commission

The Commission letter outlines its 2018 priorities for EDBs as:

1. developing a greater understanding of the performance of EDBs;
2. making EDB information more accessible to a wider audience;
3. increasing the effectiveness of the process for assessing price-quality path proposals; and
4. monitoring compliance and undertaking appropriate enforcement actions.

In addition to the priorities already established by the Commission, ERANZ believes the Commission should consider including further work on:

1. EDB consultation with customers and consumers; and
2. investigation of next tier quality standards, such as voltage stability.

Priority area one: Gaining a better understanding of the performance of EDBs

The purpose of information disclosure, under s 53A of the Commerce Act 1986 is to ensure that sufficient information is readily available to interested persons to assess whether the Part 4 purpose[4] is being met.

In its 2012 Final Reasons paper on Information Disclosure for Electricity Distribution Businesses and Gas Pipeline Businesses the Commission further outlined the rationale for, and its expectations from, information disclosure:

> *"Information disclosure improves transparency of suppliers' performance. The disclosure of information about performance can also encourage suppliers to improve their performance by allowing interested persons to highlight areas of weak and strong performance.*
>
> *An effective information disclosure regime provides transparency to interested persons of the performance of regulated suppliers. This will then provide an ongoing source of information so that trends can be identified and monitored over time, which will allow interested persons to assess whether the Part 4 purpose is being met."*[5]

Performance Accessibility tool

Paragraph 8 of the Commission's open letter further highlights the need for better understanding of EDB performance:

> *'Improving understanding about electricity distributors' performance is an important first step in moving towards a sector in which electricity consumers have confidence whether their local lines business is delivering the services they demand at appropriate price levels…'*

ERANZ commends the Commission's more recent efforts to provide stakeholders with a mechanism to assess EDB performance via its web-based performance accessibility tool. ERANZ and members have used the tool and found it useful.

Paragraphs 28-30 of the Commission's open letter requests feed-back on the tool. We believe some enhancements could be made to make it even more valuable, and easier for interested parties to assess EDB performance and appraisal of Part 4 compliance. These are:

(1) comparison of measures against a benchmark
(2) dis-aggregated performance measures within each EDB
(3) relative performance ranking tables
(4) additional performance measures

[4] The purpose of Part 4 is to promote the long-term benefit of consumers in markets where there is little or no competition. This is achieved by promoting outcomes that are consistent with outcomes produced in competitive markets including incentives for innovation, improvements in efficiency, sharing benefits with consumers and limits on excessive profit.
[5] Commerce Commission Final Reasons paper: Information Disclosure for Electricity Distribution Businesses and Gas Pipeline Businesses, page 16, paras 2.12- 2.13

1) Measures against a benchmark

The tool is currently lacking a function to show whether the performance measures shown indicate poor, acceptable, or above average performance. We believe the tool would be improved by allowing for comparison of an EDBs performance measure against a best-practice benchmark. It would also be of value to see how EDBs are improving, or otherwise, against these measures.

2) Dis-aggregated performance measures required

ERANZ believes there are limits to what information disclosure can provide in terms of understanding the true underlying performance of an EDB's network if the information provided is at a highly aggregated level. ERANZ agrees with the Commission that a disaggregated basis of quality standards is needed (paragraph 6.2 of the Open letter).

The extent of assets in a critical condition may not be revealed if the data pertaining to them is aggregated within the wider network dataset. Poor performing assets are effectively offset by better performing assets, with the overall data demonstrating overall network adequacy.

The Powerco CPP demonstrates how an EDB can appear to be performing adequately according to its disclosed performance data, yet at a disaggregated level the performance is different enough to justify a CPP. As shown by the screen shot of the Commission's Accessibility tool (below), Powerco does not overtly stand out from the pack in terms of its overall performance. However, Powerco's CPP revealed underlying issues with their network, which would not have been apparent to stakeholders via assessment of Powerco's previously disclosed performance data.

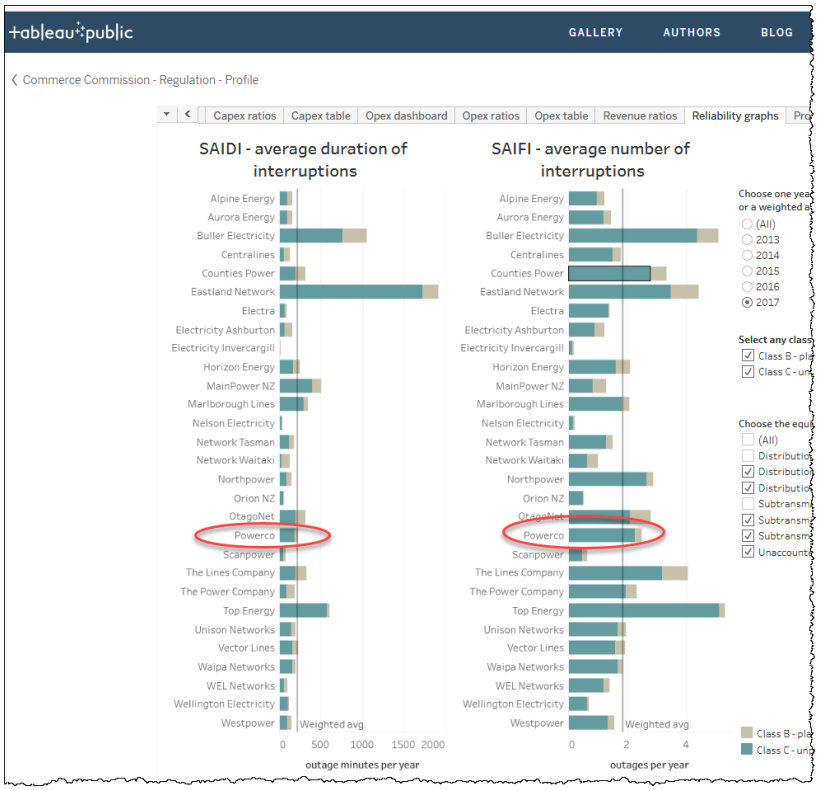


Figure: Screen shot of Commissions tableau performance assessment tools (reliability tab)

3) Relative performance ranking tables

The Commission could consider publishing EDBs performance measures relative to other EDBs. We envisage this could take the form of a table, or series of tables which rank EDBs by their performance measures. This would provide increased visibility of the higher and poorer performing EDBs, which may in itself serve as an impetus for improvement, and give interested parties, including consumers, a better metric upon which to assess the relative performance of their local EDB.

The Australian Energy Regulator (AER) has implemented such a distribution network ranking scheme and for the last four years has produced an annual benchmarking report of their Electricity distribution network service providers:

> *"Benchmarking enables us to compare the performance of DNSPs relative to each other and over time. This is important in an industry where the service providers are natural monopolies because they may not face the same pressures to operate efficiently as firms in a competitive market. By reporting comparative performance, we create an incentive for DNSPs to learn from each other and improve their performance and provide meaningful information to consumers and other stakeholders for better engagement in our regulatory processes. There has been a long history of benchmarking by international regulators."*[6]

In its benchmarking the AER use a 'multilateral total factor productivity' (MFTP) to compare productivity between individual distribution network service providers (broadly equivalent to our EDBs) against 'total factor productivity' (TFP) used to measure their electricity distribution sector as a whole[7].

4) SAIDI and SAIFI measures have limited value: additional EDB performance measures are needed

ERANZ believes that while SAIDI / SAIFI provide a good measure of the current average measure of experience by consumers they are a poor proxy for overall network health or risk. We believe they are insufficient in themselves as good method for providing early warning signs of deeper network issues.

At face value adapted versions of the MFTP and TFP measures used by the AER, could be a useful addition to SAIDI and SAIFI. MTFP and TFP provide an overall 'productivity' value and comparative ranking against a national figure. They are determined using several input and outputs including, energy throughput, maximum demand, number of ICPs, circuit length, duration of non-supply, and Opex spend, and could provide a more holistic measure of network performance.

[6] https://www.aer.gov.au/networks-pipelines/guidelines-schemes-models-reviews/annual-benchmarking-report-2016 ref page 5
[7] https://www.aer.gov.au/.../AER%20-%20Benchmarking%20Fact%20sheet%20-%20A.

..

Independent engineering audits required

We support the Commission's approach to assist EDBs to develop better asset management practices and reporting models. However, there remains an element of self-assessment on the part of the EDBs and a sense of regulating for process rather than performance.

We propose that the Commission consider instituting random audits of network assets and assessment of asset management systems practices against best-practice.

Under this regime ERANZ suggests that two or three EDBs would be selected at random per year for an assessment by an independent engineering auditor. In itself, we believe that the threat of a random audit would spur a greater attention to asset management than perhaps currently exists. This could be a key motivating factor for enforcement by the Commission.

Priority Area 2: Making EDB information more accessible to a wider audience

As part of the information disclosure requirements every EDB must produce an Asset Management Plan (AMP) once every three years.

The AMP is the key disclosure document used by stakeholders to determine if an EDB is investing in their assets efficiently, innovating where appropriate, and providing services at a quality that reflects consumer demand. AMPs cover a ten-year planning period, and are required to contain sufficient information to demonstrate the extent to which the EDB's asset management processes meet best practice criteria, and that outcomes are consistent with outcomes produced in competitive markets.

> *"The Act requires that the information is sufficient for interested persons to assess whether the Part 4 purpose is being met. Both quantitative and qualitative information is necessary to make this assessment, with quantitative information sufficiently disaggregated to allow interested persons to understand what drives performance.*
>
> *For example, to understand whether suppliers have incentives to invest, information about asset condition and capital expenditure is required. Qualitative explanations assist interested persons in interpreting quantitative information. Suppliers must provide qualitative information in explanatory notes to annual disclosures, and through the narrative provided in asset management plans (AMPs)."*[8]

It is useful to recall the impetus for production and disclosure of EDB AMPs was the 1998 Auckland CBD blackout. The effects of this event impacted the CBD for five weeks, and as a result, the Government established a Ministerial Inquiry into the failure. An outcome of the inquiry was the requirement for lines companies to publish their AMPs.

[8] Information Disclosure for Electricity Distribution Businesses and Gas Pipeline Businesses: Final Reasons Paper, Commerce Commission, 1 October 2012, page 16, paras 2.17- 2.18

AMP formats have remained largely unchanged over the intervening period. However, the needs of the audience have.

The AMP audience has changed

The intention of an AMP is for it to be presented in such a way that it can be understood by 'interested persons'. "Interested persons" are defined as "a wide range of stakeholders that are affected by electricity distribution services, including: consumers and consumer groups, electricity retailers, electricity generators, central government and regional authorities"[9].

Until relatively recently, lines distribution generally consisted of an established suite of 'poles and wires' network solutions. At a very high level, network planning consisted of forecasting the rate of load growth and then determining the right configuration from that suite of established technologies to meet that growth, and the timeframe in which to implement. Once assets were established, systems and processes were instituted, and then continually improved, around the monitoring and maintaining of those assets.

While there has been continuous technical advances and improvements in the assets within the established suite of distribution network technologies, these constituted an evolution of previous versions – transformers, conductors, poles, insulators improved markedly – but essentially remain better versions of their previous selves.

However, what we see emerging now are 'disruptive' technologies – that is they are not simply better 'poles and wires' solutions, but rather technologies that may reduce, defer, substitute, or negate the need for those poles and wires altogether.

This is a good thing as it gives networks more options that may better meet the future needs of consumers – perhaps with less visually intrusive infrastructure, perhaps at a lower cost.
Because of this change, a more diverse group of stake-holders are becoming interested in understanding the opportunities presented by this dynamic, and are thus becoming more interested in AMPs.

In addition to the 'traditional' audience for AMPs, we anticipate increasing interest from:

- Investors in new businesses and new technologies looking to establish market potential and opportunities to participate.
- Technology providers.
- Retailers looking to better target consumer segments.
- Demand response aggregators.
- Consumer advocates, seeking assurance that network investment decisions being made on behalf of consumers have robust business case processes underpinning them.
- New businesses looking to determine where best to site. For example, EV charging businesses looking to understand network constraints and weaknesses to determine where best to site charging stations.

[9] Paragraph 2.15 'Interested persons', Ibid at 8.

The question then is: are the traditional AMPs suited to meet the evolving needs of its audience? And if not – how could they be improved to do so.?

ERANZ contends that AMPs in their current form are not readily understood by many interested persons. However, with modification, they could be.

We believe interested parties will be looking to AMPs to provide visibility of:

- Network constraints and issues
- Network criticality and consequence of failure
- Current and upcoming investment proposals
- Investment option selection process and ranking of solutions

AMP best-practice journey

ERANZ shares the Commission's concerns that the quality of some AMP may not be as it should. Our impression from AMPs we have examined is that there does not appear to be much development or improvement with each AMP iteration. The impression given is that some AMPs are prepared largely by copying the previous AMP and updating the figures.

ERANZ also believes that the asset registers and explanatory notes should enable industry participants to clearly see a breakdown of the traditional infrastructure expenditure against investments in emerging technologies. This is not currently being done to a sufficient level.

Appendix 1 contains a case study which serves to demonstrate the disconnect between the AMP and the investment decisions are being made.

Existing information must be presented in a more user-friendly and logically sequenced format

ERANZ does not necessarily want to add more burden on EDBs to disclose information. Rather we believe that the information already contained in the AMP could be presented in ways that better meet the needs of a wider audience. We would expect that information that is not currently contained in AMPs would, regardless, be held by EDBs as part of business cases prepared for new investment approvals as part of standard corporate governance practices. Therefore, we believe additional cost or burden would be limited. We also think there is opportunity to remove unnecessary disclosure information which takes time and resource from EDBs to prepare, but which may no longer serve a practical purpose.

Our suggested improvements to AMP information presentation should not be construed as a criticism of EDBs or suggest there was anything untoward in their past asset management practices. Rather, it reflects a requirement to evolve existing disclosure information to better meet the needs of a changing audience.

We believe that traditional AMPs still retain their function for their traditional audience. We suggest the AMP would not be replaced. Rather they would be enhanced to make key information more

accessible to interested persons via well designed info-graphics and targeted summaries of the salient issues, areas and investments. We envisage this document would be multi-layered, progressing from a very high-level summary to increasing levels of detail, allowing interested people to quickly zero in on key issues and logically drill-down into their areas of interest, culminating in the AMP itself.

We envisage these would be converted into an electronic format in the future, with users able to click through to details on areas and issues pertinent to them.

The suggested outline leads the audience, in increasing levels of detail, from a high-level overview of network constraints to detailed analysis of salient network issue:

1. **Constraints and Issues Map: 'Heat Maps'**
   A map with an overlay of the network showing the location of key issues and constraints.

2. **Opportunities Map**
   Following on from the constraints and issues maps would be a map with an overlay of the network showing where contestable solutions are possible: e.g. storage, demand response (supply side / demand side solutions).

3. **Traffic light table**
   This would present more detail on the network issues and opportunities showing materiality, criticality and imminence of issues highlighted by the summary maps.

4. **Issue analysis**
   A one-page summary for each issue / opportunity highlighting key details. It would contain (by location):

   i. Criticality (what's at stake)
   ii. Load forecast
   iii. Load duration curve
   iv. Load profiles (daily, seasonally)
   v. Load characteristics
   vi. Solutions being considered, including non-network solutions
   vii. Comparative ranking of solutions

Whilst focusing on the AMPs as a mechanism to provide more information to potential providers of substitutes to the natural monopoly business is helpful, by itself it is a potentially ineffective approach, as what is required is a process to consider non-network alternatives. This will ensure alternatives are considered on a project by project basis, by engaging with third parties, as part of the investment decision process. The AMP is an upfront planning document, which is not suitable as the mechanism for considering alternatives, therefore some additional information is required as noted above.

To assist in explaining this concept, in Appendix 2 we have prepared a rough mock-up of the outline above which demonstrates how we envisage such information could be presented. *[NB: these are*

high-level ideas to start a discussion. We expect these would need much further development in consultation with the wider industry experts].

Existing examples of better ways to display network information

As part of its CPP proposal, Powerco provided a series of regional maps[10]. These proved highly effective in providing stakeholders with a high-level overview of issues and proposed investment, in the areas of particular interest to them, on a single page. We believe such an addition to AMPs would greatly aid stakeholders. This serves to demonstrate that the concept can be done in a New Zealand context.

Energy Networks Australia have recently released on-line network opportunity maps[11] which provide stakeholders with information to identify opportunities for distributed generation, energy storage and other non-network solutions to address network capacity constraints.

These network opportunity maps have already been used to develop a tool for solar providers to find suitable sites[12]. This is exactly the sort of use that we see would be of great value for interested parties, consumers and New Zealand Inc.

Pan-industry working group could be formed to develop better tools

Enabling innovation and facilitating low-cost access to the network platform could be done by changing the scope and design of asset management plan disclosures. This would make it easier for stakeholders and interested parties to understand where the constraints, issues, and emerging opportunities within networks lie. ERANZ suggests that this is an opportunity for industry and stakeholder collaboration through the use of a pan-industry working group.

Priority area three: Increasing the effectiveness of the process for assessing price-quality path proposals

Dynamic efficiency opportunities

There is potential for significant change to arise from the combination of falling costs, improving performance and increasing capabilities of some technologies, new business models (especially in the spaces currently occupied by EDBs, electricity retailers and generators), and evolving consumer preferences. These developments present both opportunities and challenges for EDBs, and have the potential to deliver significant benefits to consumers.

[10] http://www.yourenergyfuture.co.nz/in-your-area/

[11] http://www.energynetworks.com.au/network-opportunity-map

[12] http://reneweconomy.com.au/find-site-solar-farm-less-10-minutes-53170/?utm_source=RE+Daily+Newsletter&utm_campaign=748b9be394-EMAIL_CAMPAIGN_2017_11_30&utm_medium=email&utm_term=0_46a1943223-748b9be394-40324753

We believe the Commission should consider how it can best ensure that EDBs collaborate extensively and share their experience with their peers and stakeholders on the learnings gained on application of technologies, for example the use of software to run feeders better, or use of batteries to shave peak load. The Commission should consider investigating systems and processes which ensure suitable approaches to this sharing of information and ensure it happens as early as possible so that dynamic efficiencies are captured for the benefit of the consumer.

A price-path barrier to new technology – the 67th percentile WACC

Paragraph 8.3 of the Commission's letter asks what can be done to ensure the price paths set do not stand in the way of ongoing application of emerging technology. In our view one of the major barriers it the use of 67th percentile WACC. This parameter creates a clear incentive for EDBs to favour capital expenditure over operating expenditure, and disincentives them to contract alternate distribution solutions from third parties. This is concerning in a world where substitute technologies and business models will provide alternates to poles and wires investment. We recommend the use of the 67th percentile adjustment be reviewed (again) by the Commission in this light, including assessment of other quality mechanisms within its power to address the concern around potential network underinvestment.

We believe the Commission should also consider:

- ensuring the incentives on Capex spend vs Opex spend are symmetrical
- whether a move away from Capex and Opex to Totex, as seen abroad, may reduce barriers to substituting Capex for Opex
- whether more tailored Capex/Opex forecasting than the current methodology which uses historical spend, may result in better outcomes

The importance of the DPP

Each year that there has been a DPP reset, the DPP has become more customised. This includes the DPP beginning with a generic CAPEX which is now customised. Given the majority of EDBs remain on a DPP the Commission should increase its focus on this area.

While there is significant merit in the largest five EDBs, who together represent around 1.4M ICPs, being on DPPs permanently, as we see and hear of more EDBs looking to go for a CPP, this raises the question of whether DPPs are in fact, fit for purpose. This is an area the Authority and the Commission together may wish to consider.

In any further CPPs the Commission should look to remove the asymmetry of information by providing the OAETTS and PODs online, without parties having to request them and by providing clear information on why decisions have been reached.

Some form of cost benefit analysis (CBA) should be used to assess increased expenditure proposals in future CPP assessment process.

The CPP process is an important part of the price-quality process, and will continue to be more so if other EDBs follow Powerco's lead. ERANZ believes the Commission should consider the development of a standard CBA model. Adaptation of Treasury's online CBA model may provide a cost-efficient way to do this[13].

CBAs are a well-established and internationally recognised means for assisting decision making on major projects and on public policy proposals. CBA has been used by the World Bank since at least the 1950s as a means of assessing investment projects. Further, nearly all Western industrialised countries have protocols covering the application of CBA to a broad range of public investment opportunities or specific program areas. In the USA, for example, every major regulatory initiative (costing over $US100,000) must be accompanied by a CBA of the impact of the regulation.

Assessing whether the benefits of the proposal outweigh the costs is the essence of the Commission's second criteria for evaluating a CPP application – "*the extent to which the proposal promotes the purpose of Part 4 of the* [Commerce] *Act*." If a CBA is not to be used, it is unclear how the decision be made. While there will always be an element of uncertainty about the inputs in a quantitative CBA that is no excuse for not attempting to be rigorous and transparent in decision-making.

List of approved verifiers should be compiled for CPP applications

In order to make the consultation process more robust we also think the Commission should provide a list of approved verifiers. While we believe Powerco chose the verifier they did because they knew they would be challenging, this may not always be the case. A list of approved verifiers would be a low cost way of ensuring proper scrutiny and allow stakeholders to have adequate transparency of the process.

Priority area four: Compliance Monitoring and Enforcement

ERANZ would like to see a more robust compliance monitoring and enforcement regime. There is a need for a better link between the investment and the service quality, and consequences if that is not up to standard. Customers (retailers) and consumers need to have confidence that the enforcement regime has adequate sanctions to deter non-compliance and effectively address breaches.

Effective monitoring and enforcement should have a preventative effect

The Commission should also have a more proactive role in preventing breaches. For example, we agree with the Commission that it should have an increased interest in ensuring disclosed

[13] http://www.treasury.govt.nz/publications/guidance/planning/costbenefitanalysis/cbax

information is accurate and compliant. This monitoring should tie in with the disclosure regime being improved.

We would like to see the Commission having a good range of enforcement tools to address non-compliance. Public infringement notices or an undertaking for example would be a good middle ground where a warning is too passive and out-of-court settlements are too far at the other end of the spectrum. ERANZ believes that requiring an audit, by independent engineering experts, of networks failing to meet performance targets or with worsening performance trends, would be an effective addition to the suite of enforcement options available to the Commission.

It would be useful for the industry to have guidance on the compliance monitoring and enforcement framework summarising the different processes and tools available to the Commission as well as the case studies (which we understand that Commission is intending to do once it has resolved the outstanding price path and quality breaches).

Two regulators covering same ground?

We believe the Commission needs to address gaps and or areas of confusion that arise from the industry being regulated by two regulators. For example, at the moment the Commission has set reliability standards (SAIDI and SAIFI) but these are very high-level benchmark terms. At the other end of the spectrum we have the UoSA's regulated by the EA which are extremely granular. What appears to be missing is standardised terms setting out what the core basis services are for EDBs that go beyond SAIDI and SAIFI against which they can be held accountable. While SAIDI and SAIFI are useful for backwards looking averages, there is merit in other looking at other quality measures. This gap should be filled by the Commission but working in with the retailers to understand what measures would be ultimately useful to consumers.

We encourage the Commission to continue to liaise and coordinate with the EA on the broader market and competition implications of the regulated EDB service.

There are overlapping issues such as the service-based pricing review which affects EDBs' investment decisions and the work of the IPAG which will look at incentives to provide access to others to deliver distribution or other services.

3. Additional priorities the Commission could consider

In addition to the priorities already established by the Commission, ERANZ believes the Commission should consider including further work on:

- Expectations from consumer and customer engagement
- Next tier quality measures

Proposed new priority area: Consumer and customer engagement – understanding expectations

The Commission is interested in how distributors and the Commission can engage more effectively with consumer groups to ensure consumer preferences are considered when making asset management decisions.

ERANZ supports the consumer's voice being heard

We note that the Commission has statutory objectives which require them to consider the long-term interests of consumers such that EDBs "*have incentives to improve efficiency and provide services at a quality that reflects consumer demands*"[14]. Further when considering a CPP application, the EDB must demonstrate the extent of consultation and agreement with consumers[15].

We encourage the Commission to consider developing guidance for EDBs about what this means and what the expectations are for that consumer engagement. Consumer engagement can be time and cost intensive and expectations of what that engagement should reveal may not be met.

We believe that, while it is important that consumers be kept informed, generally, most consumers are not sufficiently interested, or have the level of industry understanding required, to provide cohesive and actionable input into complex investment decisions. Further, expectations that consumer consultation will reveal a consensus around investment decisions that have community wide implications need to be tempered, as individual consumers will each have differing needs from the distribution network.

Lessons around consumer engagement can be learned from Powerco's recent CPP application. A recent article in Energy News[16] notes that multiple channels were deployed to engage with consumers, including:

- publication of a detailed consultation document
- 110,000 newspaper inserts to residential customers
- campaigns on Facebook and Twitter targeted to nearly 100,000 subscribers
- production of a CPP overview video
- individual meetings with over 200 customers and stakeholders
- receipt of 4,300 visits to "Have your say" website
- PwC and Colmar Brunton surveys involving 1,500 business and residential customers
- CPP forums in 4 cities.

However, the feedback was not sufficiently definitive to assist Powerco or the Commission with the design of a specific CPP which would best reflect consumer preferences. Powerco stated that:

[14] S52A(1)(b) Commerce Act 1986
[15] S52T(1)(d)(i) Commerce Act 1986
[16] Energy News, 'Time for a Consumer Voice, 4 September 2017: http://www.energynews.co.nz/column/electricity-retailing/34556/time-consumer-voice

> "*Throughout our interactions, our customers have told us consistently that the quality of service we provide matters greatly to them, and that overall, they would not accept deteriorating service levels. However, there is limited desire to improve network performance, especially if this comes at a significant cost, although customers on the worst performing parts of our network generally have a different view. Naturally our customers are very price conscious. In general, they did not express a view on whether particular price outcomes were appropriate or not*."

ENA recently found this also with their UMR research in relation to distribution pricing which confirmed the challenges EDBs face when engaging directly with consumers.[17]

We note in the Open Letter that the Commission has said *"[c]onsumers have raised concerns about being expected to pay higher prices in the future to make up for past under-investment*"(paragraph 9) and *"[c]onsumers have raised concerns that they might end up paying for new poles and wires that might no longer be needed in a few years' time*" (paragraph 10). It would be interesting to know at what forums these concerns were raised and whether any lessons can be learned from that engagement.

ERANZ suggests that the Commission could give clearer guidance about what might be appropriate to avoid costly efforts being undertaken by EDBs that might end up replicating similar results.

For example, the consumer consultation guidance contained in subpart 5 of the Electricity Distribution Services Input Methodologies Determination 2012 (Consolidated Feb 2017) provides clear examples of what engagement means. We think this level of engagement is relevant and most cost-effective, without requiring every EDB to go down to trying to communicate with individuals on their networks which could be very costly for little gain:

> For the purpose of subclause (1), the CPP applicant must-
> (a) provide all relevant information;
> (b) provide information in a manner that promotes consumer engagement;
> (c) make best endeavours to express information clearly, including by use of plain language and the avoidance of jargon; and
> (d) provide consumers with (or notified them where to obtain) the information through a medium or media appropriate to the natures of the consumer base.
> *Examples:*
> *(i) by placing the information on the* EDB's *website;*
> *(ii) by providing the information to groups or organisations that represent the* consumers' *relevant interests;*
> *(iii) by including the information in* consumers' *or electricity retailers' bills; and/or*
> *(iv) by placing advertisements in local newspapers.*

Consulting with groups representing consumers will be more effective

We believe a more practical and effective mechanism of EDBs consulting on consumer preferences is to target groups who represent the interests of consumers rather than individual consumers themselves. Retailers, elected community representative bodies such as district and

[17] http://ena.org.nz/news-and-events/news/consumers-prefer-simplicity-for-pricing/

regional councils, consumer advocacy groups such as Grey Power, and direct-connect customers provide established forums for formal consultation, and will be able to provide more informed and cohesive feedback to EDBs about the needs of the consumers they represent. We also note most EDBs are community owned, with trustees elected to represent the interests of electricity consumers in the communities they serve. It makes practical sense to consult with trustees as proxies for consumers rather than seek to engage the entire consumer base.

This would be similar to the Transpower approach where it seeks to inform consumers, but primarily targets their customers (EDBs), with whom they have the service contracts, as informed expert representatives of the communities they serve for price vs quality trade-offs and the appropriateness or otherwise of regional grid investments.

Consumer Advocate

Unlike in the case of the airports where you have two well-resourced parties with clear incentives to engage on both sides, this does not exist in the case of the EDB price paths. While lines companies have clear incentives, the incentives on electricity retailers and consumers are more limited. The Commission could consider raising with MBIE the need for a well-resourced consumer advocate that could assist to provide an independent view on price-quality path proposals in order to provide come consumer feedback to EDBs.

Proposed new priority area: Next tier quality measures – voltage stability

We encourage the Commission to look at how quality standards could be improved. Retailers see one potential workstream for the Commission to regulate quality standards of voltage stability.

Advanced meters now enable voltage data to be collected. Voltage issues can be disruptive for consumers as it may interfere with their electrical equipment, reducing performance or even resulting in failure. There are also potentially safety issues where voltage is not managed within a safe range. Stable voltage relates to quality of supply, safety, and the overall consumer experience. As such, we advocate for the Commission to set quality standards in relation to voltage stability pursuant to its statutory power under section 53M (3) of the Commerce Act.

Consumers and their representatives would benefit from greater transparency and assurance regarding how distributors are monitoring and managing voltage stability. This is particularly relevant in the context of emerging technologies as there have been claims greater uptake could result in localised network quality issues related to voltage. At present such claims are unable to be transparently verified due to the lack of any requirements for distributors to monitor and report on voltage quality.

Conclusion

ERANZ welcomes the Commerce Commission course to focus on the asset management practices of EDBs.

Each of the priorities the Commission has identified will bring to the fore complex issues. Nevertheless, given what is at stake, we believe it is worthwhile persevering. In terms of focusing on the issues that we believe will have the most immediate impact, ERANZ considers the Commission should prioritise:

1. Instituting random audits by independent engineering experts of EDB network assets, and asset management systems, to improve the standard and compliance with best practice.

2. Redesign of asset management plan disclosures to make it easier for stakeholders to understand network constraints, issues, areas of criticality, and emerging opportunities. ERANZ suggests that this is an opportunity for area for industry and stakeholder collaboration through the use of a pan-industry working group.

3. Develop standardised CBA analysis tools to assist in the assessment of EDB price-path proposals and provide a method of ranking of network solutions in asset management plans.

Thank you for your consideration of this letter. We look forward to working with the Commerce Commission to improve the EDB performance framework for the benefit of the sector and the long-term interests of consumers.

Yours sincerely

Jenny Cameron
Chief Executive

Attachments

1. **Appendix One**: AMP Case study
2. **Appendix Two**: Practical examples of the limitations of current information disclosure requirements

Appendix One: Example of AMP not providing visibility of network issues and opportunities

In 2016 Vector installed a grid scale battery system at its Glen Innes substation[18, 19]. The system selected by Vector was a 1MW/2.3MW/h Tesla Powerpack at a cost of $5M[20]. Vector is planning twelve similar grid scale battery systems in different locations[21].

EDBs produce detailed Asset Management Plans (AMPs) every three years with updates provided in the interim years. AMPs cover a ten-year planning period and show the forecasted ten-year demand forecasts, and proposed capital and maintenance expenditure on the network.

Ideally AMPs would show the opportunities for providers of network services and equipment that are likely to be coming up on the network.

With regard to Vector's Glen Innes grid scale battery solution. ERANZ has reviewed Vector's AMPs and AMP updates from 2013 onwards. The Glen Innes battery project was not documented until the 2017 AMP update, *after* it had already been implemented. Furthermore, capacity issues at Glen Innes are not indicated by the Vector AMPs. Vector's 2015 AMPs in fact shows a reduction in forecast demand from their Glen Innes substation compared to earlier forecasts (as shown in Table One).

Table One:

East Coast Road	17.4	17.4	17.7	17.9	18.2	18.5	18.7	18.9	19.2	19.4	19.6
East Tamaki	17.8	17.9	18.0	18.2	18.3	18.4	18.6	18.7	18.9	19.0	19.1
Forrest Hill	17.4	17.5	17.7	17.9	18.2	18.4	18.6	18.8	19.1	19.3	19.4
Freemans Bay	19.7	20.0	20.8	21.2	21.5	21.8	22.1	22.4	22.7	23.0	23.3
Glen Innes	11.0	11.5	11.7	11.8	12.0	12.2	12.4	12.6	12.8	13.0	13.2
Greenhithe	13.2	11.9	12.3	12.8	13.4	14.0	14.5	15.0	15.5	16.0	16.5

Vector demand forecast for Glen Innes – 2014 AMP

Drive	24.9	26.7	27.4	28.0	28.5	28.7	29.0	29.3	29.6	30.0	30.3
East Coast Road	18.4	15.2	15.1	15.0	14.8	14.6	14.4	14.3	14.2	14.1	14.0
East Tamaki	18.0	17.5	17.7	17.8	18.0	18.1	18.2	18.4	18.5	18.7	18.8
Forrest Hill	16.6	16.6	16.4	16.1	15.9	15.6	15.3	15.1	14.9	14.7	14.5
Freemans Bay	20.1	20.9	21.1	21.2	21.3	21.3	21.4	21.5	21.5	21.6	21.7
Glen Innes	10.8	10.9	10.8	10.8	10.7	10.6	10.5	10.4	10.4	10.3	10.3
Greenhithe	11.5	11.6	11.7	12.0	12.2	12.4	12.6	12.8	12.9	17.1	17.4

Vector demand forecast for Glen Innes – 2015 AMP

The rationale given for equipment replacement project slated for Glen Innes within the 10-year planning horizon were for asset *renewal* (age and condition) rather than *capacity* drivers (i.e. the equipment is being replaced because it has reached end of life, not because it can no longer meet demand growth) (refer Table Two).

[18] http://www.energynews.co.nz/news-story/30296/vector-deploys-first-grid-scale-battery
[19] https://www.vector.co.nz/news/vector-unveils-asia-pacific-s-first-grid-scale-tes
[20] http://www.nzherald.co.nz/vector/news/article.cfm?c_id=1503810&objectid=11736123
[21] Ibid 6

Table Two:

Electricity Asset Management Plan Update - 2015

Project Name	Expenditure Category	Commissioning Date
Lichfield PAC System Renewal	Asset Replacement and Renewal	FY17
East Tamaki PAC System Renewal	Asset Replacement and Renewal	FY16
Hobson 22kV PAC System Renewal	Asset Replacement and Renewal	FY16
Northern Load Control Replace	Asset Replacement and Renewal	FY19
Takapuna PAC System Upgrade	Asset Replacement and Renewal	FY17
Tunnel - Cooling Capacity New	Asset Replacement and Renewal	FY16
Tunnel - Newmarket Plant Room Exterior Replace	Asset Replacement and Renewal	FY16
Glen Innes SUBT Cable Replace	Asset Replacement and Renewal	FY17
Northern Control Centre Application	Asset Replacement and Renewal	FY18
	Asset Replacement	
Tunnel - UPS Replace	Asset Replacement and Renewal	FY15
Glen Innes TX Replace	Asset Replacement and Renewal	FY18
Triangle 33kV TX Replace	Asset Replacement and Renewal	FY18
Chevalier SUBT Replace	Asset Replacement and Renewal	FY18

Vector's AMP does not support the rationale of investment deferral as espoused by Vector in the media article[22] on their project:

> *'The $5m Powerpack, equivalent to powering 450 homes for 2.3 hours, has been installed instead of a conventional $12m upgrade to existing network infrastructure - an obvious saving. Vector chief executive Simon Mackenzie says the battery stores power to help ensure the goal of energy provision to customers at peak winter levels at all times.*
>
> *"If we'd undertaken a conventional upgrade, we might have to do another one in five years or so," he says. "A conventional upgrade would also have given us far more capacity than is actually needed whereas we can just add more batteries if the need arises."*

Vector's AMP states the rating of existing equipment at Glen Innes exceeds demand and continues to do so within the planning horizon (refer Table Three) and no constraints within the next 5 years.

[22] Ibid 6

Table Three:

12b(i): System Growth - Zone Substations

Existing Zone Substations	Current Peak Load (MVA)	Installed Firm Capacity (MVA)	Security of Supply Classification (type)	Transfer Capacity (MVA)	Utilisation of Installed Firm Capacity %	Installed Firm Capacity +5 years (MVA)	Utilisation of Installed Firm Capacity + 5yrs %	Installed Firm Capacity Constraint +5 years (cause)
Atkinson Road	18	24	N-1	20	75%	24	68%	No constraint within +5 years
Auckland Airport	16	25	N-1	-	64%	25	93%	Other
Avondale	26	24	N-1 switched	18	108%	24	99%	No constraint within +5 years
East Tamaki	18	24	N-1	9	75%	24	76%	No constraint within +5 years
Forrest Hill	17	20	N-1	17	83%	20	77%	No constraint within +5 years
Freemans Bay	20	22	N-1	17	93%	22	99%	No constraint within +5 years
Glen Innes	11	13	N-1	11	81%	24	44%	No constraint within +5 years
Greenhithe	12	-	N	12	-	-	-	No constraint within +5 years

Neither Vector's AMP, nor any other documentation ERANZ can find, shows:

(i) the network issue the Glen Innes battery alleviates;

(ii) which $12M upgrade project the battery project replaces[23]; or,

(iii) whether the battery option was the lowest cost option of the solutions considered (or indeed, what other options were considered). Prior to the 2017 AMP, the Glen Innes battery project, and the network need drivers for it, were not mentioned.

We do know however, that there are large development projects planned for Glen Innes and surrounding areas.

The Tamaki Regeneration Company reference plan (covering Glen Innes, Point England, and Panmure) dated 12 July 2016 provides different information. This document states "*based on density information supplied, Vector estimates that the combined electricity load requirements may increase 100% over the next 25 years*"[24]. This is not noted in Vector's AMP.

From media releases and Section 5.18 of their 2016 AMP ('Material Projects over the next 5-years') we are aware that Vector is considering grid-scale batteries as a potential solution in "*six different locations over the next year or so*"[25]. Yet, ERANZ cannot find reference in Vector's 2016 AMP, or 2017 update, to twelve sites where grid scale batteries are planned for implementation nor other infrastructure costs it would defer.

[23] The 2016 AMP has a 33 kV reinforcement project at the St Johns substation being deferred (not replaced) from 2017 to 2021 'due to a project at Glen Innes'. However, it is unclear whether this pertains to the battery project, or what the value of the original reinforcement project and its subsequent deferment value is. The St Johns project was first raised in Vector's 2014 AMP at which point it was scheduled for 2023. It was subsequently moved to 2017 in the 2015 AMP update, before being moved back to 2021 in their 2016 iteration. The wide movement of project need dates over the last three years makes ERANZ sceptical of the validity of 'deferment value'.

[24] Tamaki Regeneration Company Referene http://www.tamakiregeneration.co.nz/sites/default/files/site-files/TRC%20Reference%20Plan%20resized.pdf

[25] Ibid 6

Appendix Two

Example of possible 'Traffic-Light' table

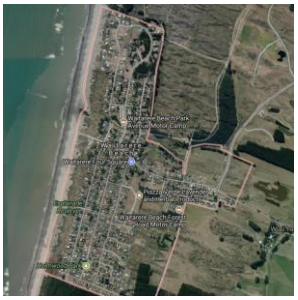
Name Lines Company – Summary of our main network issues						
Network location	**Description**	**Load growth**	**Constrained**	**Spend required**	**VOLL**	**Age (asset condition)**
Location 1	Demand exceeds capacity					
Location 2	Demand reaching capacity					
Location 3	Equipment at end of life					
Location 4	Poor performance					

Name Lines Company – Summary of our current and upcoming spend and drivers					
Project	**Description**	**Cost**	**Age**	**Growth**	**Security**
Project A		**$**	✓		✓
Project B		**S**		✓	
Project C		**$**		✓	✓

Example of 1-page issue summary

Issue Summary: Location 1

Issue description



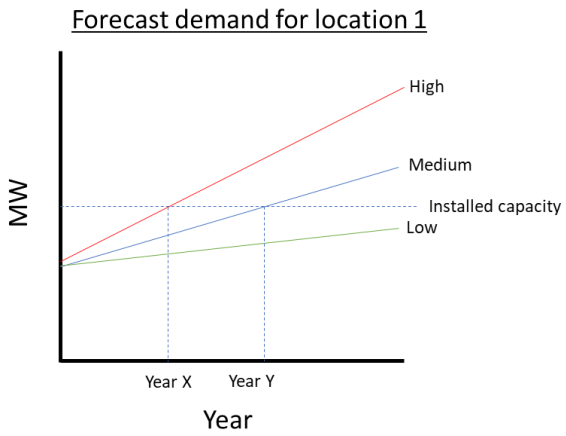
Forecast load at Location one will exceed the installed capacity of the existing lines within 5-years. The location is remote from the main body of our network, making the cost of increasing line capacity via an upgrade expensive comparative to the value of the load at risk.

Load description

Demand is predominantly residential. Load profile is atypical. Peaks occur in summer and in weekends due to location being a holiday destination.

VOLL: $400/MWh. (note graphic to go here showing VOLL scale with indicator). This is lower than average due to the economic impact of outages being low. This is due to the lack of significant business and industry in this location.

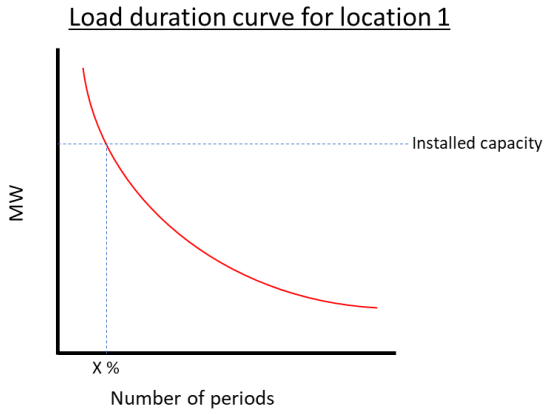
Demand forecast



Demand will reach installed capacity of the existing installed equipment in year X under a high growth scenario and year Y under a medium growth scenario.

We believe a high growth scenario is likely due to road projects coming to fruition increasing access to the location.

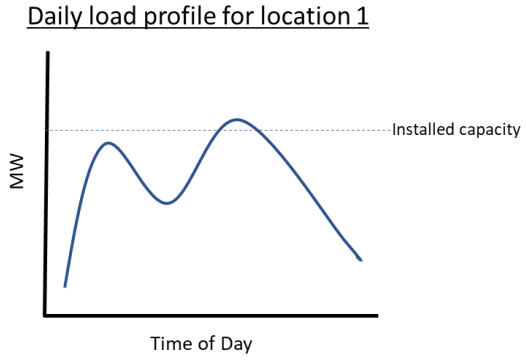
Load duration curve



The load duration curve indicates a 'peaky' load. Although installed capacity is forecast to exceed capacity, it will only be for X periods per year.

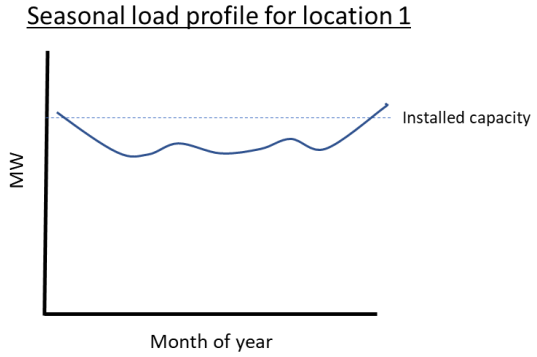
Load profiles

Daily profile



Location 1 has a typical profile for a predominantly residential load. Demand would exceed installed capacity during the evening peak.

Seasonal profile:



Location 1 has an atypical demand profile with the largest loadings occurring in summer due to it being a popular beach holiday destination.

Network solutions considered

Solution	Description	Year	Rank (NPV)

Project 1A	New line	5	**-$1.5M**
Project 1B	Upgrade existing line	2	**-$1.2M**
Project 1C	Replace conductor only	4	**-$1M**
Option selected and rationale: Project C based on least cost. However, we believe we can defer or remove this investment via the non-network opportunities listed below.			

Non-Network solutions considered

Solution	Description	Rank (NPV)	

Opportunities

The expense of a network solution and the load characteristics indicate Location 1 would be a suitable candidate for deferment or mitigation of the network solutions tabled above, via:

- A load aggregator to provide demand response
- A solar / battery provider to reduce demand
- Gas hot water for new build
- A Retailer(s) to provide a tariff option which strongly incentivises peak curtailment