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ENA Submission Part Two: Regulating Quality

Final

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1. Introduction

The ENA has established a working group to consider quality of service regulation (Working Group) for the 2020 DPP and the wider regulatory framework. The Working Group provided an Interim Report to the Commission in early October setting out interim recommendations for quality of service regulation. The framework adopted, the process used to develop the recommendations, and the customer consultation undertaken by the Working Group is summarised in the Interim Report.¹

The Interim Report has informed this submission, as many of the topics raised in the Issues Paper have been considered by the Working Group.

2. Regulating quality

Electricity networks in New Zealand are performing well, by international comparison as well as when compared against their historical performance. The large majority of customers have their electricity connected and available for more than 99.9% of the time, and in many parts of networks most customers see less than one interruption per year. By industry standards the levels of customer complaints or disputes about the service provided by EDBs are also very low.

Accordingly, the 2020 DPP provides an opportunity for incremental improvements to the overall quality of service regulations, not as an indication of material performance issues that need to be addressed. EDBs are strongly incentivised to ensure that their customers receive a good quality electricity supply, and regulation plays an important role in this. Successful regulation should however focus on areas that are within EDBs' reasonable control – an aspect that appears to become increasingly problematic as operating environments change, resulting from changes in the natural environment, customer trends, safety regulations and technological change.

If implemented, many of the potential refinements to quality of service regulation will require EDBs to collate and report on information which is currently not readily available. It is expected that additional investment in systems and resources will be required to achieve this. At this stage there has been no work undertaken by the ENA to estimate the scope or scale of this additional investment for EDBs.

¹ ENA Working Group on Quality of Service regulation, Interim report to the Commerce Commission, 1 October 2018.

3. Summary of submission

The ENA's detailed views on considerations for regulating quality of service for the next DPP regulatory period are set out in the Interim Report of the Working Group. These views are not repeated in full in this submission.

In response to the Issues Paper, the ENA supports the following for quality of service regulation:

1. Unplanned reliability targets which reflect historical performance of networks adjusted for changes to operational circumstances, derived from a ten-year dataset. The dataset is not clipped for high or low years.
2. Planned reliability targets which reflect forecast targets, aligned with expected work programmes, or as an alternative five-year historical performance, adjusted for changes in operational circumstances. These options will better align with the basis for setting expenditure allowances in the DPP, strengthening the price-quality relationship.
3. Separation of planned and unplanned reliability targets. This will reduce incentives to defer planned work in years of high unplanned outages, which may result in suboptimal network management practices.
4. Retention of the 2 out of 3-year compliance standard for unplanned SAIDI and SAIFI, and adoption of a five-year compliance standard for planned SAIDI and SAIFI.
5. Improved normalisation of unplanned reliability data to better identify the underlying performance of networks, in particular the performance which is controllable by EDBs. This will improve the operation of the quality incentive scheme and reduce false positives from a compliance perspective. In this respect the ENA supports:
 - a. Replacing the MED with the average daily value, rather than the boundary value
 - b. Including 24-hour MEDs which span two calendar days
 - c. Additional reporting of MED information in annual Compliance Statements and when compliance standards are breached.
6. Improvements to the information disclosure regulation of quality, including:
 - a. Disclosure in AMPs of LV outage data
 - b. Disclosure in AMPs of worst served customer outage data
 - c. Disclosure in annual year end schedules of more disaggregated network outage data by network category and region
 - d. Aligning SAIDI and SAIFI disclosure measurement methods with the DPP at the beginning of each regulatory period
 - e. Disclosure of customer service quality performance measures.
7. Introducing customer service measures into DPP quality regulation to better reflect the range of services provided by EDBs which customers value. The ENA supports the following measures:
 - a. The average time taken for an EDB to quote new connection applications
 - b. The proportion of planned outages notified in advance.
8. Modifying the quality incentive scheme by removing planned SAIDI and SAIFI and replacing them with the two customer service measures. This will balance the financial incentive across reliability and customer service outcomes. The incentives for planned work are retained by focusing on planned outage notifications (which are highly valued by customers) and removing the financial

reward/penalty for lower/higher planned SAIDI and SAIFI than the target. This will allow EDBs to better manage their planned work within the regulatory period without unnecessary financial consequences for year on year variation.

9. Retain the 1% revenue at risk for the quality incentive scheme. A higher revenue at risk could lead to substantial price increases or reductions, and profit levels which are materially above or below target or 'normal returns'. This is because a significant portion of the revenue at risk depends on unplanned SAIDI and SAIFI, and the events which lead to unplanned outages are largely outside the control of EDBs. There is also asymmetrical risk of exceeding targets due to the impact of significant events. A higher revenue at risk therefore may compromise the section 52A purpose statement objectives.
10. Retain the 1 standard deviation compliance buffer, and +/- 1 standard deviation approach to caps and collars. This is conditional on setting targets which reflect the achievable performance of each network, consistent with DPP expenditure allowances and operating environments. Historical performance can be used as a guide for this purpose, but changes in operating circumstances that have occurred during the historical period need to be taken into consideration. The ENA does not support a wider buffer as a compliance solution for inadequate target setting.
11. Consideration of the role and funding for a GSL scheme under Part 4 price-quality regulation prior to the next regulatory period.
12. The publication of Enforcement Guidelines for quality standards to improve regulatory certainty and stakeholder understanding of the consequences of non-compliance, reduce compliance costs and complexity, and ultimately improve quality of service regulatory outcomes.

It is also noted that some EDBs support a more limited set of refinements to the DPP quality standards than those discussed in this submission, retaining the focus on the current reliability measures and the current incentive scheme.

4. Quality standards relating to reliability

The working group considers that it is appropriate to retain EDB specific reliability targets, reflecting each EDB's performance standards and investment plans. This maintains a link between prices and quality standards under the DPP, and the current expectations of each EDB's customer base for reliability performance.

There is no strong evidence available to suggest that customers are seeking comparable reliability standards, set with reference to other networks. EDBs acknowledge the limitations of engagement with customers on the prices they are willing to pay for different levels of services. However, the information available at this time suggests customers are not generally willing to pay more for improved service levels, as would be required if comparable reliability standards across networks were introduced.

In addition, while some customers may be willing to accept lower levels of reliability for reduced prices, this would require support from a large proportion of an EDB's customer base before it could be reflected in network wide quality standards and therefore is difficult to achieve in practice. Customer feedback to date strongly suggests that declining reliability standards are not generally acceptable. It is also unlikely to be able to be implemented in the short term.

4.1. Treatment of planned outages

Separate planned from unplanned outages for the DPP quality standards

The ENA supports separating planned and unplanned outages for the DPP quality standards because this will remove the current incentive to reduce planned outages in years with poor unplanned outage performance. This practice has negative long-term outcomes and may contribute to longer-term deterioration in network performance. This change is expected to:

- help ensure that required network maintenance and construction work will still proceed as required, even in years with high unplanned outages.
- improve the visibility of the unplanned outage performance of networks and true underlying network performance.

Planned outage targets reflect expected performance

The ENA submits that consideration should be given to setting planned SAIDI and SAIFI targets from five-year forecasts, for the next regulatory period. The de-linking of planned outages from unplanned outages provides an opportunity to establish a new basis for the standard. Use of forecasts will align more closely with current customer expectations, operating practices, network performance, equipment maintenance programmes and expenditure plans for each EDB.

An alternative is to use a five-year historical reference dataset for setting planned outage targets. (This option is addressed further below).

4.2. Planned and unplanned outage compliance standards

Two out of three year rule for unplanned outages

The ENA supports retention of the two out of three year rule for unplanned outages, which appropriately recognises the fact that unplanned outages are caused by external events and are subject to year on year volatility. As these events generally occur for reasons which are beyond the immediate control of EDBs, a sustained trend of non-compliance is an appropriate trigger for a compliance standard breach.

Assess planned outage compliance at the end of the regulatory period

Consistent with the ENA's proposal to separate planned and unplanned outages, the ENA supports a regulatory period limit for planned outages. Annual targets can be set and reported against for planned SAIDI and SAIFI, with a compliance standard to apply, on average, over the regulatory period.

This will help to incentivise EDBs to manage their programmes of planned work as effectively as possible, without undue influence from short term DPP compliance obligations (i.e. providing the ability to optimise capital and maintenance plans over a five-year period). This also recognises that planned outages are on balance more acceptable to customers, than unplanned outages, so long as good communication is in place.

Buffer between targets and limits

Maintaining a buffer between the targets and the limits is an appropriate unplanned outage compliance standard as it allows for year on year variation. The Issues Paper suggests widening the buffer in combination with increasing the revenue at risk under the quality incentive scheme. The ENA does not support the proposal to increase the revenue at risk (addressed further below) or the buffer. This is conditional on setting targets which reflect the current operating environments of each network, consistent with DPP expenditure allowances. Historical performance can be used as a guide for this purpose, but changes in operating circumstances that have occurred during the historical period need to be taken into consideration. The ENA does not support a wider buffer as a compliance solution for inadequate target setting.

It is important that the DPP is set for each EDB with achievable quality targets, which are consistent with DPP revenue allowances, current supply obligations and operating capability of networks. Otherwise it will not be possible to set DPPs which are consistent with the s52A purpose statement. There must be a reasonable link between the DPP expenditure allowances and the quality targets. If the quality targets are too low, EDBs will not have a realistic expectation of earning normal returns. If the quality targets are too high, EDBs can be expected to earn above normal returns.

For the avoidance of doubt the ENA considers a buffer should also apply to the reference period target for planned outages.

4.3. Reference periods

Unplanned outage targets are linked to historical performance

The ENA supports basing unplanned SAIDI and SAIFI targets for each EDB on a ten-year reference period, contingent on:

- modified normalisation of extreme events (refer below)
- adjustments for individual EDBs for changes in operating environments (refer below).

The ten-year reference period for unplanned outages is appropriate because it helps mitigate year on year variation due to circumstances outside EDB control, and the longer duration captures the longer-term weather cycles. This is consistent with the no material deterioration standard.

The ENA does not support a longer reference period because the performance in the earlier years is less relevant to current network capability.

Shorter reference period for planned outages

An alternative to the forecast approach for setting the standard for planned outages described above, is to use a five-year historical reference dataset for setting planned outage targets. A shorter, more recent dataset than for unplanned outages will better reflect current operating environments and the benchmark expenditure levels which influence DPP revenue paths. This may also be a default option available for EDBs who have insufficient certainty over future planned outages at the time the 2020 DPP is reset.

4.4. Adjustments to reference datasets

Addressing the impact of changes in operating environments

There have been changes to the operating practices of EDBs which have led to ongoing breaches of the quality standards for some EDBs in the current DPP regulatory period. The increasing incidence reflects in part the introduction of new operating practices since the Health and Safety at Work Act 2015 (the Act) came into effect.

The reopener provisions for the current DPP have been interpreted very narrowly. Accordingly, there has been no opportunity for EDBs to apply for revised DPP quality standards to reflect their changes in operating practices which have arisen in response to external factors, such as the Act².

Accordingly reference datasets which include periods which preceded the changes in operating practices will not adequately reflect the achievable operating performance of the network during the next regulatory period. Thus, in these circumstances it will be necessary to make some adjustment to the reference dataset to derive reliability standards which are achievable. The consequence of not addressing these operational changes is that:

² The Commission's recent draft decision on Vector's application for a reopener to reflect changes in legislative requirements illustrates these restrictions.

- Some EDBs will not be able to comply with their quality standards, creating ongoing compliance issues for the EDB and the Commission
- Some EDBs will be prevented from earning normal returns, due to ongoing quality incentive penalties.

The Issues Paper suggests that this issue may be resolved through quality only CPP applications. However, the quality only CPP option ceases at the end of the current regulatory period. In its place, a DPP reopener for quality standards will come into effect. The ENA does not consider that it is consistent with the legislative intent to rely on a DPP reopener to address circumstances which are well understood and a consequence of legislative change, at the time a DPP is set.

The Issues Paper also suggests that this issue could be dealt with through a step change in targets. The ENA supports this approach which is consistent with the recommendations of the Working Group. In this respect the ENA cautions against the Commission making judgements about operational risk for EDBs, particularly where these may reflect a greater degree of operational risk than adopted by the EDB. This is not appropriate for the low cost DPP regulatory settings, as to do so would require bottom up SAIDI and SAIFI (and resourcing) impact analysis.³

Accordingly, it is proposed that adjustments are made to address the impact of changes in operational environments which have occurred during the current regulatory period and which have impacted the reference periods for SAIDI and SAIFI target setting.

As described in the Interim Report, the ENA proposes that the adjustments are EDB specific, limited to a value that can be supported by quantified evidence provided by the EDB and approved by the Commission.

The Interim Report includes proposals for standardising the adjustment process, which is consistent with low cost objectives of the DPP. We note that there is precedent for EDB specific adjustments being incorporated into the DPP (for example for spur asset purchases) and therefore do not consider the fact that some EDBs are more affected by the legislative change than others should prevent this matter being addressed in the DPP reset.

Removing highest and lowest years

The ENA does not support removing selected years from the reference sets. We consider that the underlying variability in annual network performance is a feature which should be recognised in the regulatory standards. This is contingent on appropriate normalisation for extreme event days, where networks are unable to operate within their design limits.

We also note that selectively removing certain periods from the reference period may disrupt the statistical properties of the data which may have unforeseen consequences. The datasets are currently used to determine the major event day normalisation (via boundary values), and the cap and collars for the incentive scheme (via the standard deviations). These affect not only the target but also the compliance limits, and financial incentive rates.

³ For example, this may require the Commission to specify circumstances when it considers it appropriate for live-line techniques to be used, and forecasting how SAIDI could be avoided as a result.

Removing the (two) highest and lowest years, as suggested, would significantly reduce the sample size, and therefore increase the probability of actual performance falling outside the reference performance during the regulatory period. In addition, the high and low years will not be symmetrical, because there is no countervailing influence against large storms (even with normalisation). This proposal will therefore increase the risk of an ill-specified target, leading to additional breach risk.

Adjusting for past contraventions

The ENA does not support adjusting the datasets for past contraventions where investigations into the breaches have been resolved to the Commerce Commission's satisfaction. This was the position adopted for the 2015 DPP and it should be retained.

4.5. Enforcement matters

Enforcement guidelines

The ENA is also seeking more certainty about enforcement processes and improved understanding of the consequences of non-compliance with the DPP quality standards in order to reduce the significant uncertainty which currently exists in this respect. This uncertainty compromises regulatory incentives for quality performance.

The publication of Enforcement Guidelines for quality standards will improve regulatory certainty and stakeholder understanding of the consequences of non-compliance, reduce compliance costs and complexity, and ultimately improve quality of service regulatory outcomes.

Enforcement Guidelines should include direction on the behaviours expected of EDBs, for example:

- How are planned works treated in a breach situation – should planned works be maintained in years with high unplanned outages?
- How the frequency and causes of MEDs will be considered
- How the frequency of car v pole incidents will be considered
- How asset related faults will be considered, for example where they remain at low or historical levels during breach periods.

Compliance contravention reporting

The ENA supports improved clarity about the information to be reported in annual Compliance Statements where quality standards are breached. The types of information listed C51 of the Issues Paper appear sensible, although it is likely that some topics will be more relevant than others depending on the circumstances leading to a breach. We suggest that there is some flexibility provided to EDBs in the information provided in order to avoid unnecessary compliance costs.

We recommend that these information requirements are included in Enforcement Guidelines, for the reasons outlined above.

4.6. Additional disclosure of information about outages

Expand information to be disclosed

It is proposed that additional reliability performance information is included in the Information Disclosure requirements from the beginning of the next regulatory period. The Working Group has made recommendations for the development of additional information disclosure requirements in respect of:

- Annual disaggregated SAIDI and SAIFI by network category and region
- Including information about the worst-served customers on a network in AMPs
- Including information about LV network performance in AMPs.

These measures are not appropriate for the DPP, which is a relatively low cost regulatory mechanism, focused on network-wide performance.

Some implementation experience will be necessary to ensure that the disclosures are meaningful, and disclosure via AMPs is a reasonable transition step prior to standardising reporting formats for annual year end information disclosures.

Improving the visibility of LV network performance is becoming increasingly important in the context of future energy developments. In particular, new technology developments related to energy use and generation, particularly those on the customer side, are anticipated to have a material impact on power consumption and power flow patterns in future. This could impact significantly on network power quality (positively or negatively), in particular on LV networks. EDBs therefore have to consider investing, or planning to invest in, improved LV monitoring capability. Additional reporting of LV performance is consistent with the increasing criticality and focus on the reliability performance of LV networks.

Achieving accurate LV outage monitoring and reporting could however involve significant investment. Initially it may be necessary to accept the limitations posed by existing systems and assets in reporting LV outages. However, over time it is expected that information about LV network performance will have to be improved, for the reasons stated above.⁴

Short-duration outages

Many customers are adversely affected by short-term outages. Improving the visibility of the extent and trends of short-duration outages could provide better insights and a stronger basis for engaging with customers on their experience and expectations.

However, this information is expected to be of more value to asset managers than customers, and of lesser value to customers than the other measures noted above. It is therefore recommended that customer views

⁴ One area that could address many of the EDB's needs with potentially less cost implications, would be the implementation of smart meters that can capture and convey LV performance information in near real-time; which is made freely available to EDBs to act on. (Current smart meters and data access issues make this impossible.)

on short-term outages are considered during the next regulatory period, before committing to additional reporting of this measure.

The ENA notes that most EDBs have limited ability to measure momentary interruptions on their networks (MV and particularly LV). Installing the required monitoring and communications systems to accurately record momentary interruptions will involve considerable expense.

Lost load

The Working Group considered measures for the quantum of load dropped at the time of an outage, or the estimated volume of energy not served as a result of an outage. These measures could provide further information about the impact of outages. However, there are substantial practical difficulties in implementing these measures, as well as some material drawbacks such as the amount of effort and cost required to retrospectively assess the amount of energy not delivered. These are set out in the Interim Report. We note that this information serves no other immediate business need. For these reasons the ENA supports focusing on other potential areas for improvement.

Incorporate DPP reliability measures into information disclosures.

The ENA supports aligning information disclosure with the DPP quality of service measures at the beginning of each DPP regulatory period, to reduce cost and complexity and improve information on EDB quality performance for customers. This should include the methods used for normalised outage reporting to improve comparison between exempt and non-exempt EDB reliability performance. Additional reporting for major event days (such as the number and the total SAIDI and SAIFI for each day) would assist in preserving time - consistent datasets.

5. Normalisation

Normalisation is one of the methods used to identify underlying network performance for the purpose of the DPP quality standards, and annual information disclosures of network reliability performance. This helps to avoid false positives, which occur where an EDB may be in breach of the DPP quality standards but where there is no material deterioration of network performance and reduce year on year volatility.

5.1. Boundary values

The ENA continues to support using the 23rd highest day to define the boundary value for Major Event Days (MEDs) where a ten year reference dataset applies. This aligns to the intent of the IEEE's method which is to allow for 2.3 MEDs per year on average.

Substitute MEDs with the average daily SAIDI or SAIFI

The ENA understands the Commission's reasons for wishing to retain some impact for MEDs in the reference datasets and the normalised reliability assessments. However, the ENA does not support substituting the MED with the boundary value. There is no customer benefit which arises from this method, which is at odds with the IEEE approach. The ENA proposes that the MED is substituted with the daily average instead. In parallel, DPP Compliance Statements could be enhanced with explanations for why the cause or impact of the event was outside the reasonably expected control of the EDB to avoid the MED.

The impact of MEDs is so severe that there is a high likelihood that an EDB experiencing an above average number of such events will exceed their regulatory targets or limits regardless of whether these events exceeded their reasonable (or economically justifiable) capacity to manage them. By avoiding substitution with the boundary values, the major distortionary impact of MEDs on annual reliability statistics will be substantially mitigated. This will allow more accurate analysis of the true underlying reliability trends of networks.

We note that the boundary value substitution method has been considered previously and the annual volatility that arises due to the frequency of MEDs. It was anticipated that the revised normalisation method introduced in 2015 would reduce the volatility from the impact of major events.⁵

However, this volatility remains, and is significant. For example, currently EDBs experiencing two MEDs within a year will have on average 13.8% of annual target SAIDI attributed to MEDs. This increases to 20.8% of target SAIDI with three MEDs. For some of the smaller EDBs, the boundary values are more significant, (ie: for Nelson Electricity one MED is 16.7% of target SAIDI and 18.3% of target SAIFI). Thus, the frequency of MEDs has a significant impact on quality incentive and compliance outcomes. The frequency of MEDs is largely outside the control of EDBs.

If MEDs were substituted with the average value, the impact of the annual variance in the number of MEDs would be significantly reduced. It would also help to avoid the target increasing over time, due to ineffective normalisation of extreme circumstances. This is consistent with the intent of the normalisation method and

⁵ Refer Commerce Commission, Default price-quality paths for electricity distributors from 1 April 2015 to 31 March 2020, Quality standards, targets and incentives, 28 November 2014, para 41

will generate significantly improved measures of underlying network performance. It will also improve the properties of the financial incentive scheme.

5.2. Major event days

Allow MEDs to be identified on a rolling 24-hour period.

The ENA supports modifying MEDs to include 24-hour periods which span two calendar days. This will address situations when an event stretches over two calendar days, with a total impact in a 24-hour period qualifying for MED treatment, but where the impact on either of the calendar days is not sufficient to qualify. This would also improve alignment with international practice and result in a more accurate identification of real MEDs, avoiding the current, somewhat arbitrary, measure that results in some MEDs not being identified.

Further aggregation for follow up events.

The ENA also supports further consideration of aggregation of multi-day events and follow up interruptions with an MED. This would need to be applied to reference datasets and annual assessments to ensure comparability. It may therefore rely on whether the historical data for all EDBs is available in a suitable format.

6. Quality incentive scheme

6.1. Revenue at risk

1% MAR revenue at risk is retained.

The Working Group recommends that the total revenue at risk is retained at 1 percent of maximum allowable revenue (MAR) for the next regulatory period. A higher revenue at risk is not recommended at this stage as there is not yet sufficient evidence that this incentive scheme is achieving the intended purpose and that the quality targets will reflect current EDB operating environments, and the realistic expectations of customers.⁶

The ENA does not support a bigger role for the financial incentive scheme in order to correct for inadequacies in the DPP quality standards.

While financial quality incentives are more substantial in some other regulatory jurisdictions, they are not implemented in a DPP environment. Rather they are implemented after significant scrutiny of work programmes, planned opex and capex, and agreed business specific quality targets, and with dead bands in some circumstances. The DPP is a low cost regulatory mechanism which is not able to incorporate the detailed plans and service targets of each individual non-exempt EDB. Accordingly, there are additional risks for the incentive scheme under Part 4 which do not exist in other jurisdictions. This supports retaining a lower revenue at risk.

The current DPP quality performance to date shows significant variance in annual performance, within the caps/collars, and above/below the caps and collars. This means that the financial incentives and penalties are continually impacting consumer prices and regulatory profit levels.

The Working Group's EDB survey highlighted operational responses that EDBs have made in response to DPP compliance issues including, targeted use of mobile generation, deferral of planned work, increased vegetation programmes, and increased fault dispatch resourcing. However, it was noted that these actions are unable to fully mitigate breaches which are caused by major events, or changes in network operating practices in response to external factors. Accordingly, during the current regulatory period, the financial incentive scheme has operated in practice as a financial penalty for EDBs, or subsidy for consumers, for circumstances which EDBs are largely unable to control - particularly weather-related.

A higher revenue at risk could drive outcomes which are not in customers' best interests including:

- Undue focus on dense parts of the network with highest SAIDI/SAIFI impact
- Greater incentives to invest to mitigate outages which may be inconsistent with customer price/quality trade-off preferences.

There are a number of refinements of the DPP quality regime which are required to be put in place and tested during the next regulatory period before any increase in the revenue at risk allowance could be contemplated. These include improving the unplanned reliability quality standard to better reflect underlying network

⁶ There is a perception that the scheme is currently more a penalty for bad weather, or reward for good weather than an incentive to invest to improve network performance.

performance, removing planned outages from the incentive scheme and expanding the quality metrics to include customer service measures.

We note that the proposed +/-5% MAR revenue at risk would, if applied, have a significant impact on consumer prices and EDB returns. At its extreme, our analysis of RY18 disclosure data shows that increasing or decreasing distribution revenue by 5%, impacts:

- the average distribution revenue per ICP of non-exempt EDBs by +/- \$60 per year. The equivalent impact of a 1% increase or decrease in distribution revenue is +/- \$12 per year.
- the average ROIs of non-exempt EDBs by +/- 0.9%. The equivalent impact of a 1% increase or decrease in distribution revenue is +/- 0.2% ROI.

Changes of such magnitude would need to be carefully considered in the context of the s52A purpose statement, in particular whether they would be consistent with the expectation of EDBs earning normal returns over time, and prices reflecting the quality of services demanded by consumers. The over/under performance is unlikely to be symmetrical. This is particularly evident for SAIDI. Examination of the 2016 to 2018 DPP compliance outcomes reveals that across the non-exempt EDBs subject to DPPs, there were:

- 1248 SAIDI minutes above target (16.1%), and 265 SAIDI minutes below target (3.3%)
- 8.4 SAIFI above target (9.0%) and 9.3 SAIFI below target (9.9%).

The magnitude of above target performance is expected to be greater than below target performance (even with normalisation) due to the impact of significant external events. This compromises the FCM principle and potentially the s52A purpose statement.

6.2. Measures to be included

Remove planned outages from the financial incentive scheme

The ENA supports removing financial rewards and penalties from planned outages, thus improving incentives to plan and execute work programmes across the regulatory period without undue focus on single year outcomes. As customers are less disrupted by planned outages, but value good communication about them, the incentive scheme is strengthened by including a planned outage notification measure to replace the planned SAIDI and SAIFI measures. This appropriately moves the financial incentive to the planned outage service metric that matters most to customers.

Include customer service measures

The ENA supports improving the incentive scheme by weighting more of the revenue at risk towards other service outcomes which customers value and which EDBs are able to control. This is addressed further in the next section.

6.3. Caps and collars

Caps and collars depend on how targets are determined.

The ENA does not support widening the cap and collar buffers as a method to accommodate significant volatility or other known and material shortcomings in the quality measures used for the DPP. The ENA's

preference is to retain the caps and collars at 1 standard deviation, retain the 1% revenue at risk and improve the specification of the quality standards and targets.

Considerably more analysis would be required before a value of lost load approach could be introduced to setting the incentive rates. The size of the caps and collars varies across EDBs given the datasets, particularly for those with few event days. This could lead to some extreme incentive rate outcomes, well beyond the current rates, with a risk of creating perverse investment incentives. Accordingly, the ENA does not support this option for 2020.

7. Other measures of quality

7.1. Customer service measures

The Working Group identified customer service measures that could be incorporated into DPP quality regulation. The measures represent features of EDB quality of supply performance which customers value. These are consistent with other regulatory regimes which include broader measures of customer service. After significant consultation, as noted in the Interim Report, the ENA supports introducing the following customer service metrics to the DPP:

- A measure of average time taken for an EDB to quote new connection applications
- A measure of the proportion of planned outages notified in advance.

Average time taken to quote new connections was identified as being of notable customer value. While this does not measure the full connection process it is a measure which EDBs are able to control and therefore is suitable for use in the DPP. The ENA understands that the time to complete the physical connection is also important to customers however this involves third parties and will be influenced by factors outside the EDB's control, including the complexity of the connection. Accordingly, this proposal is a measure which provides a useful indication of connection process quality while being sufficiently targeted at the parts of the process over which EDBs have most control, and are able to be measured.

Communication of planned outages to customers was one of the top priorities identified by customers and supporting research. Timely, accurate and reliable notification of planned outages reduces the impact of an outage and leads to a better customer experience.

Include measures in incentive scheme

The ENA supports the inclusion of the two customer service measures in the quality incentive scheme, but not the DPP compliance framework. This will provide incentives for EDBs to maintain or improve target service levels, and reward customers for under performance against the targets, without introducing unacceptable compliance risk.

As EDBs have not reported against such measures to date, and as the processes for collating the required information are yet to be developed, the ENA considers that it is not appropriate to impose a compliance obligation on prescribed standards for these measures during this next regulatory period.

7.2. Power quality

The Issues Paper suggests measure of power quality could be considered for quality regulation. While the ENA agrees that voltage stability is an important measure of quality of supply, it is already covered by technical network regulations and therefore:

- It is not necessary to include it under the Part 4 quality measures
- To do so would also unnecessarily increase regulatory compliance risk and complexity.

Collecting exhaustive information about voltage fluctuations around the network, particularly on the LV network would be a substantial undertaking involving considerable investment in monitoring, information systems and communications.

The Issues Paper suggests that existing smart meters can provide data on voltage fluctuations. However, in practice EDB experience is that:

- This data is not freely available as there are many impediments to EDB access to meter data
- In many instances the required voltage readings cannot be provided by the existing meters
- When data is provided, it is not always useable – particularly when individual ICPs cannot be identified
- Increasing penetration of distributed generation will create more voltage instability which will not be accurately reflected in smart meter data.

Finally, while the ENA agrees voltage stability is important to overall customer experience and safety, we note that the current regulations in New Zealand in this regard may need to be overhauled. The existing voltage requirements are very strict compared with most international regimes and given the increasing tolerance of most modern electric devices to wider voltage ranges, these strict limits may no longer be necessary.

7.3. Investigate guaranteed service level schemes

GSL scheme funding

Consider whether a GSL scheme forms part of the Part 4 regulation of quality and how it could be funded.

GSL type schemes are widely used internationally as part of the legislative or regulatory frameworks for service quality. The basic principle of a GSL scheme is that customers who receive a service below minimum acceptable levels will be entitled to a service level payment. The service measures commonly included in GSL schemes include:

- More than a predefined number of extended outages per year.
- More than a predefined duration of outages per year.

The Electricity Authority (EA) is continuing its work on Default Distribution Agreements (DDAs). This may involve GSL scheme type provisions. This type of regime is more within the Part 4, Commerce Act legislative requirements for price and quality regulation of EDBs. It is consistent with the s52A requirement for regulated suppliers to provide services at a quality which consumers demand.

A predetermined amount of revenue set aside for the scheme, funded through the regulatory cost base will allow a GSL scheme to operate in a manner consistent with price-quality trade-offs for investment and works programmes. A funded GSL scheme will allow appropriate transparent trade-offs to be made for improving service for customers experiencing service at levels below that specified by the GSL framework.

There will be merit in considering funding mechanisms and allowances for any such scheme as part of the 2020 DPP reset process. This will remove a potential barrier to implementing such a scheme during the next regulatory period.

The ENA acknowledges that considerable more work will be required to consider the details of such a scheme, however it is important that the role of such a scheme under Part 4 is considered prior to the next regulatory period, particularly as the EA DDA work stream is expected to progress in the short term. This may include GSL type features which align with the quality of service regulatory mandate which sits within Part 4 of the Commerce Act.

8. 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