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# ***Submission to the Commerce Commission***

on

Proposed Quality Targets and  
Incentives for Default Price-  
Quality Paths from 1 April 2015

Made on behalf of 19 Electricity Distribution Businesses

*PwC submission on  
behalf of group of 19  
EDBs*

*Final*

*29 August 2014*

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# Submission on DPP Quality Paper

1. This paper forms our submission on the Commerce Commission's (Commission) paper, "Proposed Quality Targets and Incentives for Default Price-Quality Paths from 1 April 2015" released on 18 July 2014 (the Quality Paper). This submission has been prepared by PricewaterhouseCoopers (PwC) on behalf of the following 19 Electricity Distribution Businesses (EDBs or distributors):
  - Alpine Energy Limited
  - Aurora Energy Limited
  - Buller Electricity Limited
  - Eastland Network Limited
  - EA Networks
  - Electricity Invercargill Limited
  - Horizon Energy Distribution Limited
  - MainPower New Zealand Limited
  - Marlborough Lines Limited
  - Nelson Electricity Limited
  - Network Tasman Limited
  - Network Waitaki Limited
  - Northpower Limited
  - OtagoNet Joint Venture
  - The Lines Company Limited
  - The Power Company Limited
  - Top Energy Limited
  - Waipa Networks Limited
  - Westpower Limited.
2. Together these businesses supply 26% of electricity consumers, maintain 44% of total distribution network length and service 75% of the total network supply area in New Zealand. They include both consumer owned and non-consumer owned businesses, and urban and rural networks located in both the North and South Islands.
3. The Quality Paper describes the proposal to introduce a financial incentive scheme for the quality component of the Default Price-Quality Paths (DPP) to apply to 16 non-exempt EDBs from 1 April 2015. It is proposed that Orion New Zealand is not included in the DPP reset at this time, due to their recent CPP Determination.

4. On 15 August we submitted on the DPP Policy Paper and the DPP Forecasting Paper and associated models.<sup>1</sup> We have also submitted today on the DPP Compliance Paper and associated Input Methodology (IM) Amendment Paper and the IRIS (Incremental Rolling Incentive Scheme) Paper.<sup>2</sup> These submissions should be viewed collectively, as they are related and together represent our views on the proposals for the DPP to apply for the next regulatory period.
5. This submission presents the views of the 19 EDBs which support this submission. We also note and support the ENA's submission on the Quality Paper.
6. We trust this submission provides useful input in setting the 2015 DPP. We would be happy to answer any questions you may have regarding this paper.
7. The primary contact for this submission is:

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<sup>1</sup> Commerce Commission, Proposed Default Price-Quality Paths For Electricity Distributors from 1 April 2015, 4 July 2014, and Commerce Commission, Low Cost Forecasting Approaches for Default-Price-Quality Paths, 4 July 2014

<sup>2</sup> As published at [http://www.comcom.govt.nz/regulated-industries/electricity/electricity-default-price-quality/default-price-quality-path from 2015](http://www.comcom.govt.nz/regulated-industries/electricity/electricity-default-price-quality/default-price-quality-path-from-2015)

# Summary

8. In summary, we submit:

- a. While there are many aspects of the proposed quality incentive scheme that we support, we do not agree with the proposed approach to normalisation for major events, the pro-rata adjustments for prior period breaches, and the proposed compliance standard.
- b. EDBs are already penalised in a number of ways for poorer reliability performance during major events, and additional regulatory incentives are therefore unnecessary and importantly EDBs must not compromise their safety objectives during such events, in order to meet arbitrary regulatory rules.
- c. If these aspects of the proposals are not modified to address our concerns, then we submit that the current approach should be retained.
- d. Absent reasonable normalisation for major events, we believe that the incentive scheme, in practice, will generate financial rewards and penalties which reflect year on year variation in weather, rather than underlying improvements or reductions in service quality.
- e. The proposed increase to the compliance standard does not reflect consumer demands, provides no compensation to suppliers for this higher compliance standard, and fundamentally fails to recognise the natural variation in reliability performance over time. It also compromises the intent of the incentive scheme, which is to enable suppliers to either improve or reduce quality of supply in order to reflect consumer needs. It will also increase compliance costs.
- f. Accordingly, we submit that the appropriate compliance standard is as follows:
  - EDBs are deemed to be compliant if their respective SAIDI and SAIFI assessed values are no more than their caps, two out of three years in a row.
  - No enforcement action is undertaken where EDBs are deemed to be compliant.
  - No enforcement action is undertaken where non-compliance reflects higher frequency and impact of major events (including planned events) relative to the cap.
- g. Sufficient revenue must be provided for in the price path to maintain existing quality standards. Use of a FY13 base year for forecasting opex is inconsistent with this objective, as this was a benign year for unplanned outages for many EDBs due to unusually calm weather conditions.

# Quality targets and incentives

9. The Quality Paper proposes a change in the design of the quality standard component of the DPP. It is proposed that a revenue incentive scheme is introduced in place of the current/pass fail quality standard limits. A quality incentive scheme has previously been supported by industry participants, which partly reflects the work of the ENA's Quality of Supply and Incentives (QoSI) working group in assessing how quality may be assessed, measured and refined for the DPP.
10. In our 15 August 2014 response to the DPP Policy Paper we included our initial comments on the proposed quality targets and incentives. Since making that submission we have carefully considered the detailed explanations and proposals contained in the Quality Paper. This analysis has confirmed our views which were presented in our earlier submission and for completeness we have restated those views in this submission.
11. The EDBs which support this submission have also contributed to and support the ENA's analysis of the proposed quality incentive scheme and recommended modifications.
12. We also note that we support consideration of developments for future regulatory periods, and in this respect we support the QoS Work Group recommendation to test other ways of assessing quality performance through Information Disclosure regulation, prior to introducing further changes to the DPP.

## Financial incentives

13. The EDBs which support this submission have contributed to the work of the ENA's QoS Work Group and subsequent analysis of the proposed incentive scheme. We agree that there are options for further development of the quality standard for the DPP, and recognise that the pending reset deadline limits the developments which can realistically be introduced for 1 April 2015.
14. In principle we support the introduction of a financial incentive scheme which reduces prices for consumers following poor reliability performance, and rewards suppliers with increased revenue for improved reliability performance.
15. We have previously noted that consumers have overwhelmingly indicated to their suppliers, that current reliability performance is acceptable, and they do not wish to pay more for improved quality. This means in practice, some suppliers may face the situation where they are unable to pass on any financial rewards, but will be unable to avoid the financial penalties should they arise.
16. In addition, some EDBs are currently operating well below their price caps, and are unwilling to increase prices up to their caps due to consideration of the financial impact on consumers. These EDBs may therefore also incur financial penalties, without the benefits of the rewards.
17. In paragraph 2.8 of the Quality Paper, it is suggested that the proposed revenue linked incentive for reliability will provide better incentives for EDBs to understand cost/quality trade-offs and manage reliability in a way which recognises costs and benefits to consumer. While we acknowledge these potential outcomes, we note that the incentive rates which are proposed do not reflect the full cost to EDBs, or the full value to consumers of incremental service quality.
18. The proposed incentive rates are a by-product of the revenue at risk, target and cap/collar assumptions. While we support this approach to determining incentive rates for the first quality incentive scheme, we note that there are other methods for determining incentive rates (such as with reference to the value of lost load) which are more consistent with the outcomes which are suggested in paragraph 2.8. We make this point because we believe it is important that the proposed scheme is well understood, and that the Commission, consumers and suppliers have realistic expectations about what it may or may not achieve in the next regulatory period.

19. We note that pricing volatility is also one of the consequences of the proposed scheme. For this reason we have highlighted ways to improve the scheme in order to reduce the impact of significant external events which are largely outside the control of EDBs, and unduly influence the scheme as proposed.
20. We also support consideration of a dead-band around the target, to exclude small variances in reliability performance from financial incentive calculations. We suggest this proposal will avoid introducing unnecessary volatility in pricing, where only minor incremental changes in reliability are experienced, and consequently the incentive properties are weak. This has the effect of increasing the incentive rate, as the size of the band between the dead-band and the cap or collar is reduced, which provides stronger financial incentives for changes in quality performance which are more material.

#### Baseline prices and standards

21. It is critical that when implementing a financial incentive scheme for quality under the DPP, that price paths and quality standards are set with consistent underlying assumptions about reliability performance. In order to achieve this, the current status of each network must be reflected in the parameters used to set price paths and quality standards. The historical reliability performance of each network provides a useful reference point, as does historical opex and capex. Forecast opex, capex and reliability targets are also relevant.
22. It is proposed that the DPP is reset using a mix of historical and forecast information. When considering the quality targets, the important consideration is whether there is sufficient revenue provided for in the price path to meet the target quality standards (before any consideration of financial incentive payments).
23. It is also necessary to set quality targets which are consistent with current network topography, outage management arrangements and quality of supply obligations, unless additional revenue is provided to modify these circumstances.
24. At this point, for the purpose of the DPP reset, it is assumed that consumer demands for quality are broadly met by existing SAIDI and SAIFI performance, with the underlying drivers being:
  - Current network wide performance is maintained (ie: there is no material deterioration permitted or material improvement required)
  - Incremental variances from current reliability performance will incur marginal financial consequences, but these are capped within a statistically expected range of 'normal' performance – ie: are consistent with the requirement to maintain current levels of quality.
25. We support a DPP reset of quality which broadly maintains current levels of quality, with financial recognition of incremental changes within reasonable bounds. We do not believe that there is sufficient evidence of consumer demand for step changes in service quality. This would be necessary to justify an alternative approach.
26. Accordingly, it is necessary to provide sufficient revenue in the price path (before consideration of any quality incentive payments) for EDBs to maintain existing quality standards. For this reason, in our submission on the Low Cost Forecasting Paper we challenged the proposed opex allowances because they:
  - Reflect a FY13 base year, which was acknowledged by the Commission to be a low year
  - Include insufficient forecast opex allowance for unplanned outage response and remediation, due to the benign weather conditions and hence low levels of unplanned outages, which most EDBs experienced in FY13

- Fail to recognise the historical trends in opex productivity, which emphatically demonstrate that EDB inputs have consistently grown faster than outputs for the past decade. Increases in input costs have exceeded measurable outputs.<sup>3</sup> This reflects a number of factors including increased traffic management constraints and increased employee and public safety requirements.

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<sup>3</sup> As calculated by Pacific Economics Group and Economic Insights, for the purpose of assessing the opex partial productivity factor assumption to be included in the opex forecast for the DPP price paths – refer <http://www.comcom.govt.nz/regulated-industries/electricity/electricity-default-price-quality/default-price-quality-path> from 2015



# Increased compliance standard

27. It is proposed that compliance with the quality standards will be met where:
- Assessed SAIDI is no more than the SAIDI target
  - Assessed SAIFI is no more than the SAIFI target.
28. It is suggested that no enforcement action will be taken where SAIDI or SAIFI assessed values fall between the target and the cap (ie: where marginal financial penalties cease to apply) except in exceptional circumstances. However paragraph 4.6 of the DPP Compliance Paper states that in exceptional circumstances where quality standards are not met, the Commission may still seek pecuniary penalties under Section 87 of the Commerce Act or criminal sanctions under Section 87B for under performance.
29. We note that in this respect the Quality Paper states:
- 2.19 Failure to meet the SAIDI target or SAIFI target would constitute non-compliance with the quality standards. The Commission may take enforcement action and seek pecuniary penalties under section 87 of the Commerce Act, or criminal sanctions under section 87B of the Commerce Act, for failure to meet the quality standards.*
30. The Quality Paper suggests that this proposal provides additional regulatory certainty relative to the current pass/fail quality limits because it helps reduce uncertainty for distributors and consumers. It is suggested that distributors and consumers will have more certainty as to how the Commission will assess and enforce compliance with reliability standards and other quality measures. We disagree. Enforcement Guidelines could also achieve the same (and we submit better) outcomes and these could be developed for either a pass/fail or incentive scheme.
31. The proposed scheme adds (not reduces) uncertainty because the compliance standard is unrealistic, and hence there will be far more breaches than under the current DPP Quality Limits. The proposal significantly increases the compliance standard because the standard deviation band has been removed from the target, and the two out of three year test has also been removed.
32. A compliance standard based on the average will result in multiple breaches where there is no long-term deterioration in reliability, simply due to normal year on year variation. We refer the Commission to the Part 4A quality threshold, which resulted in 115 breaches across six years<sup>4</sup>, which reflected both extreme and normal variation in reliability performance. We note that annual reliability is expected to be greater than the historical average roughly half the time, all other things being equal.
33. The Quality Paper includes no evidence which suggests that the proposed change in compliance is consistent with consumer demands, and importantly the proposed price path includes no additional expenditure allowance to enable EDBs to meet this higher compliance standard.
34. In addition the Commission is proposing to reserve considerable discretion in how it may assess breaches, despite the financial incentives. Thus in our view the financial incentive scheme itself does not provide additional regulatory certainty in the context of compliance with the quality standard.
35. The Quality Paper also states in footnote 5 that:

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<sup>4</sup> PwC, Electricity Lines Business, 2009 Information Disclosure Compendium, page 6

*We also expect there to be limited, if any, increase in compliance costs for distributors, and a reduction in the amount of resources the Commission has to dedicate to assessing compliance with the quality path.*

36. We disagree. As we explained above the proposed compliance standard is unrealistic. It can be expected to result in non-compliance 50% of the time for every non-exempt EDB, on either (SAIDI or SAIFI) measure. Extra compliance costs will therefore apply because:
- The financial reward/penalty will need to be calculated at the end of each assessment period, and reflected in prices at a later date
  - Additional explanations are to be included in Compliance Statements
  - There will be more non-compliance, which adds cost to suppliers due to the need to provide explanations, and increased cost for the Commission for multiple post breach investigations.
37. While the Quality Paper suggests that the Commission will only undertake enforcement action under exceptional circumstances where performance falls between the target and the cap, this:
- Does not change the fact that EDBs will have broken the law when their reliability performance exceeds their historical average
  - Adds uncertainty to the quality component of the DPP, as enforcement action may now be taken where reliability performance falls within one standard deviation of the historical average
  - Introduces the concept of exceptional circumstances, the definition of which appears to be at the Commission's discretion
  - Introduces enforcement action in response to a single year outcome, which is inconsistent with the relationship between the price path and quality standards which is predicated on the basis of prices being set with the expectation of no material deterioration in quality
  - Ignores the financial penalties to be imposed on suppliers (and hence compensation for consumers) for reliability performance which is worse than the target
  - Unduly biases the regime, with considerably tougher consequences in years where reliability is worse than the historical average, than in years when reliability is better than the historical average.
38. We submit that it is unacceptable to place the Directors of an EDB in a position of knowing they are likely to breach their DPPs multiple times during the next regulatory period, with limited opportunity to prevent the breaches, given the way in which the quality targets are to be set.
39. We also note that the proposed methods for setting the targets retain considerable exposure to the impact of major events, particularly weather, on performance against the quality standards. This biases the standards against EDBs. The financial benefit is capped in good years, however although the financial penalty is also capped in bad years, additional enforcement consequences (including potential fines and criminal action) can be imposed on suppliers in such years.
40. Accordingly the EDBs which support this submission believe that the current approach to determining DPP quality standard compliance criteria should be retained. In this respect, we submit that in recognition of the financial penalties to be imposed on EDBs where SAIDI and SAIFI exceed their historical averages:
- EDBs are deemed to be compliant if their respective SAIDI and SAIFI assessed values are no more than their caps, two out of three years in a row
  - No enforcement action is undertaken where EDBs are deemed to be compliant

- No enforcement action is undertaken where non-compliance reflects higher frequency and impact of major events (including planned events) within the relevant assessment periods, relative to the cap.
41. As previously submitted we do not agree with the proposition that a two year out of three compliance assessment rule incentivises distributors to exceed their reliability standards once but not two times in a row. EDBs actively seek to avoid breaching the current reliability limits in every year. While a breach of the reliability limit in one year increases the pressure on the business to not breach the next year, there is no incentive to breach in the first year. The uncertainty surrounding the timing and severity of weather events creates too much risk to adopt such a strategy. It is also fundamentally contrary to the commitments made to consumers and published annually in AMPs and Statements of Corporate Intent.
  42. We also disagree with the assertion that the statistical allowance in the current reliability standard may provide scope for a material deterioration in reliability over time. It is possible that the statistical allowance could lead to higher average reliability over time without there being a breach of the quality limits. However, the point of the allowance is to avoid a breach of the quality standard where there has been no deterioration in long-term reliability. We note that one standard deviation is a statistically sound measure of the expected normal variation in reliability performance, when derived from historical data.
  43. Further, the incentive scheme penalises any performance which falls within the cap, by imposing financial penalties as a result. This addresses any concerns that underlying reliability may deteriorate without being non-compliant (as per para 2.14.2 of the Quality Paper). We note the incentive scheme actually endorses the option of reduced reliability (within the cap) via the financial penalty. This is consistent with the objective of encouraging EDBs to better understand and provide quality of supply consistent with consumer demands.
  44. As previously stated, while the DPP quality limit is one reliability measure, it is not the only one, and as demonstrated in EDB asset management plans, and through annual statistical reporting, there is no evidence to suggest that the DPP limit has resulted in material deterioration in reliability performance, or that EDBs are forecasting such deterioration. We note that this outcome was acknowledged in the Commission's recent cost of capital IM paper which stated:
 

*6.22 There is no evidence of systematic under-investment, or of declining service reliability, from businesses subject to price-quality path regulation under Part 4 of the Commerce Act.*

*6.25 ... However, data on the average duration and frequency of interruptions for EDBs indicates that there is no clear evidence of declining service reliability over time.<sup>5</sup>*
  45. We therefore do not accept the inference that the current compliance approach may have led to a material deterioration in reliability performance, within the compliance threshold.

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<sup>5</sup> Commerce Commission, Proposed amendments to the WACC percentile for electricity lines services and gas pipeline services, 22 July 2014 – pages 75, and 77

# Specifying the quality targets

46. There are a number of proposed changes to how the quality targets are to be set, which we support. These include:

- The retention of own network SAIDI and SAIFI as the quality of service measures. These are to be weighted equally for the DPP quality standards. This is a practical approach, given the data which is available at this time, and we understand that reliability performance is valued by consumers.
- The use of historical data (including the most recent data available) for each EDB to determine the targets. As stated previously current performance is a relevant standard for the next regulatory period, as there is insufficient evidence to support step changes, and the proposed price path does not anticipate such outcomes. We believe that ten years of data provides an appropriate indicator of current reliability, while avoiding anomalies which may arise from temporary variation.
- De-weighting planned outages, because they are less disruptive to consumers.
- Normalising for the impact of major events which are largely outside the control of EDBs, in order to derive a measure of underlying reliability – although we do not agree with the normalisation method proposed.
- Capping revenue at risk for the next regulatory period at a relatively low percentage of maximum allowable revenue, because financial incentives for quality are, at this stage, untested in the New Zealand regulatory environment.
- A symmetrical incentive scheme which rewards/penalises for annual variations in quality performance which is consistent with the objective of providing choices for consumers, and recognises that EDBs only have limited opportunities to influence reliability in the short term.
- Adjusting quality standards in the event of a transaction, including acquiring assets from Transpower, to reflect the impact of a transaction on the EDB's responsibility for providing electricity lines services.

## Extreme events

47. It is important to remove the impact of major events from the reliability targets in order to derive a measure of underlying quality performance, which can be assessed in the context of the no material deterioration standard. Otherwise the financial incentive payments will unduly reflect annual variations in the frequency and magnitude of major events.

48. This expectation is acknowledged in the Quality Paper, as follows:

*Analysis of reliability data is often susceptible to variation from extreme events. Extreme events can lead the average duration and frequency of interruption measures to be unrepresentative of the underlying service reliability being provided by a distributor. (para 3.2)*

49. We note that EDBs are already worse off following a major outage event because they:

- Incur abnormal costs in restoring power.
- Lose revenue when supply is disrupted.
- Face reputational damage and draw negative media attention.

- Face potential compensation claims and service guarantee payments through Use of System Agreement and other contractual arrangements with customers.
  - Face potential compensation claims due to the recently heightened provisions of the Consumer Guarantees Act.
50. Accordingly we believe that it is unnecessary to impose additional financial penalties on suppliers for such events, though the DPP. It is also inconsistent with the intent of the incentive scheme which is to encourage businesses to either improve or reduce underlying reliability in response to consumer demands.
51. While it is proposed that there is some normalisation for extreme events in the quality targets (and associated annual assessments) we believe that the proposed method is flawed because it includes criteria which contravene the international IEEE standard<sup>6</sup> on which it is based. These proposed criteria reduce the normalisation of major events relative to the IEEE standard, which is predicated on the assumption that each EDB can be expected to have 2.3 SAIDI Major Event Days (MEDs) per year.
52. While it is proposed that the same normalisation approach applies in defining the target, and in the subsequent annual assessments, the practical impact of the divergence from the IEEE standard is that there is less normalisation of MEDs than under the standard. This increases the impact of MEDs on performance, and as such, EDBs are more exposed to annual variability in major events (relative to the historical average) than had the IEEE standard been applied in its entirety.
53. This is particularly punishing in New Zealand because there is so much overhead reticulation (much of it located in rural areas) which is exposed to adverse weather, particularly wind, rain and snow – and we commonly experience severe storms, which can occur in all parts of the country.

#### IEEE method

54. We support the adoption of the IEEE 2.5 beta method for identifying MEDs. We also support modifying the method to recognise the prevalence of zero event days in New Zealand (which is not the case in the US where the method was developed). We note the ENA's submission on this issue, and support their proposal to use the IEEE's own adjusted method which accounts for zero event days, rather than the one proposed in the Quality Paper.
55. We also note that the number of MEDs which are evident in the reference datasets are considerably less than 2.3 per year on average for most EDBs, which suggests that the IEEE log normal distribution assumption does not apply well in New Zealand. Thus the proposed DPP method is conservative, in that more abnormal reliability performance is retained in the datasets, because the boundary values are higher than the underlying IEEE assumption suggests they should be.
56. We note that the boundary values which result after adjusting for zero event days, are much more consistent across EDBs than is currently the case but still are above those which would be consistent with a 2.3 MED per year outcome (with the exception of Nelson Electricity).
57. We note that Nelson Electricity, which is small and predominantly underground, remains problematic because it has so few outages. This results in boundary values which are so low that there is a high probability that a single event will frequently trigger a MED. For example, the proposed boundary for Nelson Electricity, when applied to the ten year reference dataset, results in 26 of the total of 67 event days being classed as SAIDI MEDs, and 22 of the 67 event days being classed as SAIFI MEDs. We encourage the Commission to consider further the statistical properties of smaller networks with few outages, before finalising the normalisation methods for them.

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<sup>6</sup> IEEE Std 1366:2003: IEEE Guide for Electric Power Distribution Reliability Indices

58. We note that it is proposed that only unplanned interruptions are normalised. We understand the driver for this proposal but note that there are significant parts of rural New Zealand which are serviced by single supply lines, which from time to time must be serviced. Planned outages for these assets can result in relatively large SAIDI impacts, which will distort the results in the years in which they occur. While the 50% de-weighting reduces the impact, it will remain as un-normalised data under the proposal. We submit that the regulatory standards must recognise the need for planned outages on critical assets, and not penalise EDBs unduly for undertaking prudent maintenance on them.
59. In this respect we also challenge the statements in paragraph 3.18 of the Quality Paper which suggests that EDBs may defer planned work in the event of a major event. While that may apply in many instances we note that planned work may already be underway before the event commences, or planned work may be undertaken on another part of the network which is not affected by the unplanned event. The staff or contractors which undertake planned work may also have different skills to fault staff, and may not be able to be safely substituted into fault response roles.
60. We do not support the proposal to replace a MED with the boundary value. This retains too much of the impact of major events in the reliability measures which masks the underlying reliability performance. Accordingly annual performance will be unduly impacted by whether there are more or less major events relative to the average represented in the target. We note that in the UK, Australia, and the US, major event days are excluded from regulated quality performance standards, and those days are subject to separate assessments. We believe that this approach is more suited to an incentive regime; otherwise the financial penalties and rewards are unduly influenced by the frequency and severity of weather events.
61. We do not agree with the proposition that there must be regulatory incentives in the quality standards to ensure major events are responded to in a timely way. We have explained above why EDBs are incentivised to restore power as quickly as safely possible during such events. We also note that it is not possible to determine the impact of an event on the annual assessed values before power is restored, and boundary values are certainly not a focus during the pressures of dealing with multiple and sustained outages. We consider a better underlying reliability measure is achieved by replacing the boundary with the historical average (derived from non MED event days).

#### Outage response

62. We have previously stated, and repeat here for convenience, that we are concerned at the statements at paragraph 6.12 of the Quality Paper which infer that distributors may be able to control all of the determinants of reliability in the longer term (but not the short term), and that the distributor is able to control how long it takes to resolve an outage. Networks are not designed with sufficient redundancy to provide alternative supply to all consumers in the event of an outage, or multiple outages. The costs of doing so would be prohibitive, and hence so would consumer prices. Similarly the costs of providing immediate restoration for all outages would be prohibitive. Assets could be undergrounded to avoid the impact of wind, snow, rain and vegetation, but underground networks are not immune to outages, they may be more difficult to repair than overhead reticulation. Most importantly, they are considerably more expensive to build.
63. The most critical factor determining how long it is before an unplanned outage is restored is safety. The EDBs which support this submission are very concerned that the safety aspects of network fault response are not acknowledged in the DPP consultation papers. It is the immediate safety circumstances which determine when and how a fault is responded to. The safety of the fault staff and the public overrides all other factors, including financial penalties and rewards, or other Part 4 regulatory settings.
64. During major weather events, it is often too unsafe for staff or contractors to commence their fault location and restoration tasks immediately, particularly at night. In addition crews must be rotated on and off during significant events to manage fatigue and ensure they are able to operate safely. This is why we challenge statements such as those included in paragraph 6.12, which suggest a distributor could choose to do better in extreme weather circumstances. The EDBs which support this submission



are extremely concerned that the proposed regulatory incentives effectively mean they may only be able to maintain their safety standards at the expense of regulatory compliance.

65. We also note that distributors are acutely aware of the disruption to their customers during an outage, particularly an unplanned outage. We believe the customer response is one of the most critical and effective drivers which ensure outages are restored in as quickly, as safely possible. Customers are also understanding of the safety risks, particularly as they are experiencing the same conditions. We therefore challenge the assumption that EDBs require additional regulatory incentives during major events.

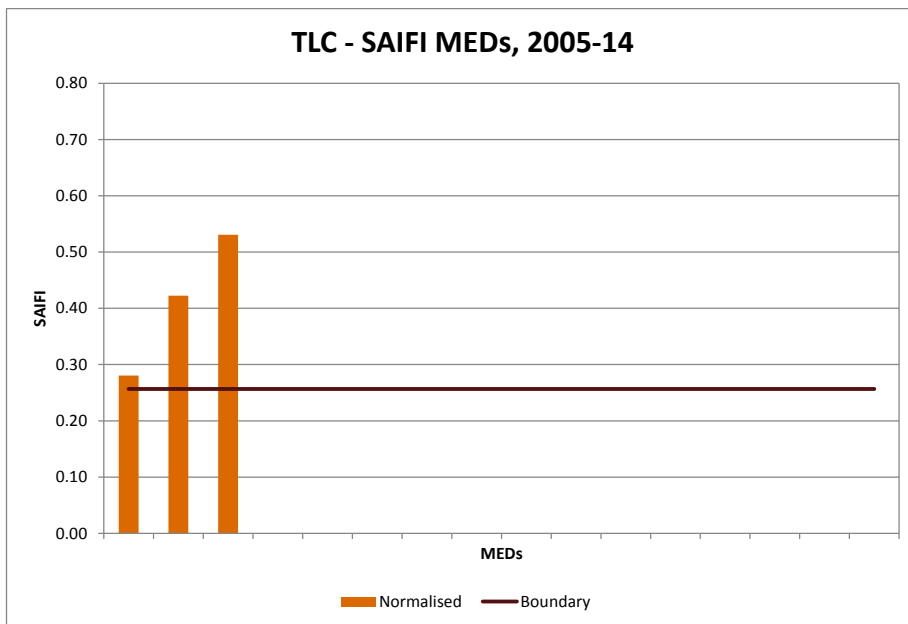
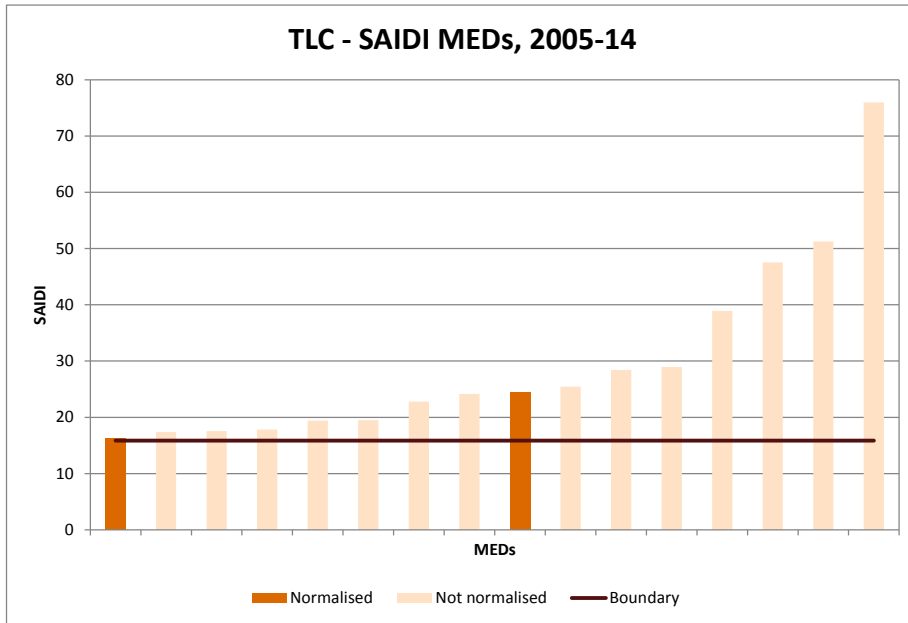
#### SAIDI MEDs

66. The new proposal to limit SAIDI MEDs to days where a SAIFI MED is also recorded is seriously flawed. The IEEE beta method assumes that an EDB should experience 2.3 MEDs on average per year (assuming log normal distributions) and it solves for a boundary value consistent with this. The proposed normalisation approach then ignores this underlying principle and excludes from the SAIDI normalisation process a large proportion of SAIDI MEDs, simply because there were insufficient events recorded on that day. However the number of events is not a characteristic of the SAIDI population, which measures outage duration.
67. As a result EDBs will retain multiple SAIDI minutes attributed to MEDs in their normalised datasets, which makes the measure meaningless as an indicator of underlying reliability performance. This is an unnecessarily retrograde step, in our view, and ignores the improvements made for the 2010 DPP in measuring underlying reliability.
68. The tables overleaf illustrate this anomaly with reference to reliability data for The Lines Company (TLC). The proposed boundary values for TLC result in 16 SAIDI MEDs and 3 SAIFI MEDs in the 2005-14 reference period. The proportion of total (ten year) unplanned SAIDI represented by the 16 MEDs is 24.2%. The 3 SAIFI MEDs represent 4.1% of the ten year unplanned SAIFI.
69. This data demonstrates that SAIDI has a longer tail than SAIFI, and the assumed log normal distribution in the IEEE method is less relevant for SAIFI than it is for SAIDI (ie: the method assumes 2.3 MEDs per year, but TLC has only 3 SAIFI MEDs over ten years).<sup>7</sup>
70. By imposing a SAIFI trigger on SAIDI MEDs, substantial duration impact is not normalised due to the longer SAIDI tail. In TLC's case, only 2 of 16 SAIDI MEDs are normalised under the proposed method, which means that 10.8% of the unplanned SAIDI from the entire reference period (which is more than one year of unplanned SAIDI) remains in the proposed target, despite it being above the SAIDI boundary.
71. New Zealand network topography means that weather events can impact rural customer bases for prolonged periods of time, by affecting few, but strategically important network locations. The lack of alternative sources of supply, and the remoteness of the networks, which are difficult to access safely during poor weather (and at night) mean that rural and remote rural networks are exposed to high SAIDI impacts which are not always reflected in corresponding high SAIFI.
72. We have examined the MEDs in the reference datasets of the 16 non-exempt EDBs. Over 60% of the SAIDI MEDs are not normalised due to the proposed SAIFI MED trigger. Those days predominantly reflect major storm events, with individual outages with prolonged duration. There are also instances of unplanned failure of critical assets. These are the same days which EDBs have either previously normalised (under the current DPP), or reported as major events in their threshold compliance statements.

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<sup>7</sup> We note the IEEE method was only developed for SAIDI measures.

**Draft DPP QoS Proposal for Normalisation of MEDs (TLC: 2005-14)**



73. Accordingly we submit that SAIDI MEDs must be normalised independent of SAIFI MEDs because otherwise it compromises the IEEE method and fails to generate an underlying reliability measure. This means that compliance or otherwise, and the resulting financial incentive payments/penalties, will be unduly influenced by the frequency and magnitude of major events in each assessment period.

***Prior period breaches***

74. Finally, we believe that the proposal to adjust the quality targets and caps and collars downwards to reflect the impact of previous breaches is flawed because it mixes different methods and standards. We also consider that the proposal unduly penalises (including in financial terms) for prior period performance. We are aware that the breaches have been investigated and no fault was determined and no compensation sought. We therefore do not support this aspect of the method for setting reliability targets.