

From the Electricity Networks Association

**Submission on default price-quality paths
from 1 April 2015 for 17 electricity
distributors: process and issues paper**

Final Submission

30 April 2014

The Electricity Networks Association makes this submission along with the explicit support of its members subject to Default Price-Quality Path regulation, listed below.

Alpine Energy Ltd
Aurora Energy Ltd
Centralines Ltd
Eastland Network Ltd
Electricity Ashburton Ltd
Electricity Invercargill Ltd
Horizon Energy Distribution Ltd
Nelson Electricity Ltd
Network Tasman Ltd
Orion New Zealand Ltd
OtagoNet Joint Venture
Powerco Ltd
The Lines Company Ltd
Top Energy Ltd
Unison Networks Ltd
Vector Ltd
Wellington Electricity Lines Ltd

Contents

1.	Introduction	1
1.1	Summary	1
2.	Starting prices	4
2.1	Approach to setting starting prices	4
2.2	Current and projected profitability	4
2.2.1	ENA forecasting working group output	4
2.3	Forecasting opex	5
2.3.1	Base year	5
2.3.2	Network scale effects	5
2.4	Forecasting capex	6
2.4.1	Network and non-network capex	6
2.4.2	Forecasting capex for the 2015 reset	7
2.5	Input price indices	7
2.6	Longer term developments	8
2.7	Recommendations	8
3.	Allowable rate(s) of change in price.....	10
3.1	Proposed approach	10
4.	Incentives for service quality.....	11
4.1	Quality of Supply workgroup	11
4.2	Measuring quality	11
4.3	Pass/fail quality standard	12
4.4	Revenue linked incentive scheme	12
4.4.1	Developing a revenue incentive scheme	13
4.5	Possible adjustment factor	14
4.6	Further refinements	15
4.6.1	Extreme event normalisation	15
4.6.2	Using historical data	16
4.7	Next steps	17
4.8	Recommendations	17
5.	Other performance-related incentives	19
5.1	Expenditure incentives	19
5.2	Energy efficiency, demand side management and the reduction of losses	19
5.2.1	Introducing a “D” factor	20
5.2.2	Addressing unreliable forecasts of energy efficiency initiatives	20
5.2.3	Allowing for more representative depreciation rates	22
5.2.4	Clarifying how the Commission is giving effect to s54Q	22
5.3	Recommendations	23
6.	Treatment of uncertainty and risk	24
6.1	Revenue and expenditure forecasts	24

6.1.1	Variance between forecast and disclosed CPI revaluations of RAB	24
6.1.2	Variance between forecast and outturn volumes	25
6.2	Compliance risk	25
6.2.1	Enforcement	26
6.2.2	Ascertainable costs	27
6.2.3	Introducing a compliance wash-up	27
6.3	Volume risk on recoverable and pass-through costs	28
6.4	Catastrophic risk	29
6.4.1	Compensating for catastrophic risks	29
6.4.2	Reopening the DPP	30
6.4.3	Uplift to 75 th percentile of cost of capital	31
6.5	Recommendations	31
7.	Treatment of assets purchased from Transpower	33
7.1	Purchases prior to regulatory period	33
7.2	Forecast purchases during regulatory period	35
7.3	Purchases to be included	36
7.4	Recommendations	37
8.	Customer service lines	38
8.1	Context	38
8.2	Recommendation	39
	Attachment A - An international perspective on service quality	40

1. Introduction

1. The Electricity Networks Association (ENA) appreciates the opportunity to provide feedback to the Commerce Commission (the Commission) on the 2015 DPP Process and Issues Paper.¹
2. The ENA represents the 29 electricity network businesses (ENBs) in New Zealand.

1.1 Summary

3. For the purpose of setting starting prices for the 2015 DPP reset the ENA:
 - a)* Supports the proposal to determine which approach to apply when resetting the price path by estimating prices that might apply based on current and projected profitability, using a similar approach to the 2012 reset, with some refinements;
 - b)* Agrees that Orion New Zealand is excluded from the DPP reset at this time, due to their recent CPP determination;
 - c)* Submits that it is necessary to test previous forecasts against outturns before determining what if any refinements are made to forecasting models;
 - d)* Submits on opex forecasting that the 2014 data reflects expenditure levels consistent with the scale of the network in that year, prevailing prices and current regulatory compliance obligations. If there is to be longer term averaging with past data then historical data should be adjusted for scale and input price inflation and changes in regulatory compliance obligations;
 - e)* Notes that the majority of non-exempt ENBs support the use of a cap on historical capex for this reset, while others support further consideration of the relative merits of AMP forecasts for this reset. All support the use of AMP forecasts, along with possible disciplines to verify these forecasts for future resets;
 - f)* Submits that the Commission considers the recommendations of the Frontier Economics Output 3 report for potential improvements to top down econometric models and the basis for determining input price indices for expenditure forecasting; and
 - g)* Supports further exploration of potential longer term refinements to forecasting methods, including exploring whether it would be possible to shadow the most probable alternatives in this reset, including menu regulation.
4. The ENA recommends that with regards to the service quality component of the DPP:

¹ Commerce Commission, Default price-quality paths from 1 April 2015 for 17 electricity distributors: Process and issues paper, 21 March 2014

- a) Reliability measures are retained as the primary measure of service quality for the forthcoming DPP reset, and any potential additional measures are introduced firstly via ID regulation before further consideration for DPP purposes in the longer term;
 - b) Moving to a more incentive based approach to determining the DPP quality standard, that any changes that are introduced are rigorously stress tested prior to implementation, and that an incremental approach is adopted for the forthcoming reset;
 - c) A number of further refinements to the current reliability measures should be investigated to improve the treatment of extreme event and normal variation and the interplay between the measures;
 - d) Further analysis of reliability data, before the parameters for an incentive scheme are determined. The ENA is currently undertaking analysis of ENB reliability data and propose to continue with this work stream during the forthcoming weeks, and to engage further with the Commission on these topics prior to the Draft Decision; and
 - e) An incentive scheme would require some form of an adjustment factor to be included in the DPP price path. In this submission we suggest how such an adjustment factor could operate, and also identify how this adjustment factor could be used as a mechanism to address a number of other issues in the current DPP. The common feature of these adjustments is that the level of future prices could be affected ex post by reference to well defined outcomes.
5. The ENA recommends that the Commission, in order to ensure incentives are in place for energy efficiency initiatives and disincentives are removed for these initiatives:
- a) Introduces a “D” factor into the DPP arrangements so that an ENB’s revenue is not affected by reductions in throughput arising from energy efficiency initiatives;
 - b) Allows for the recovery ex post of a return on and of capex incurred in relation to energy efficiency initiatives, in order to place less reliance on the DPP forecasts for such capex;
 - c) Allows for more representative depreciation rates (than 45 year asset lives) to be used in the DPP forecasts of capex related to energy efficiency initiatives, or allows for an ex post adjustment to address any variance between forecast and actual depreciation amounts; and
 - d) Clarifies in the DPP reasons paper (and the draft of this paper) how the Commission is giving effect to the requirements of section 54 Q.
6. The ENA recommends that in order to address uncertainty and risk in the DPP, the Commission:
- a) Introduces a wash-up mechanism to enable recovery in the next DPP regulatory period of sufficient revenue to take account of the difference in revaluation rates due to reported CPI versus forecast CPI that has occurred in this regulatory period and which is now reflected as a variance in disclosed

RAB values versus forecast RAB values. This wash-up could be introduced by way of a revenue adjustment factor, or there may be other ways to achieve the same outcome.

- b)* Considers sharing the risk of variances in forecast and outturn volumes, above some threshold, with consumers;
 - c)* Publishes Enforcement Guidelines for Part 4;
 - d)* Introduces a compliance wash-up mechanism to provide more certainty, simplifies the post price-path compliance process and removes the potential for inadvertently breaching the price path, and ultimately removes the need for ENBs to allow for “headroom” when setting prices;
 - e)* Reconsiders how volume risk on pass through and recoverable costs could be addressed, including via an adjustment factor; and
 - f)* Includes a re-opener for catastrophic events for the DPP consistent with the direction of the High Court.
7. The ENA recommends that in relation to assets purchased by an ENB from Transpower:
- a)* These assets are included in the RAB, and associated capex and opex forecasts, where the transfer has been completed prior to the start of the next regulatory period, ie: 1 April 2015, and an adjustment mechanism is introduced to address forecasting variances which might emerge between that date and the time the final determination is made;
 - b)* That the recoverable cost allowance for assets transferred during the regulatory period fully reflects the avoided transmission charges specified in clause 3.1.3(1) of the IMs, including new investment charges that would have arisen during the regulatory period had the purchase not been undertaken; and
 - c)* That mechanisms to adjust the quality standard following an asset transfer (including those completed prior to and after the beginning of the regulatory period) are included in the DPP quality standard.
8. The ENA recommends that the Commission, in order to enable ENBs to address the public safety issues arising in relation to customer service lines:
- a)* provide for the ex post recovery of the costs incurred by ENBs to service customer service lines.
9. We provide more detailed comment on these points in the body of our submission.
10. The ENA’s contact person for this submission is:

Nathan Strong
Chair, ENA Regulatory Working Group
Email: nathan.strong@unison.co.nz
Tel: 021 566 858 or 06 873 9406

2. Starting prices

2.1 Approach to setting starting prices

11. DPP price paths are able to be set by rolling over prices from the previous period, or resetting prices with reference to current and projected profitability. In order to determine which approach will apply, it is proposed to estimate the prices that would apply if they were to be set based on current and projected profitability. In so doing, it is proposed that a similar approach will be used, as used for the 2012 reset, with some refinements. The ENA supports this proposed approach to determining price paths for the DPP to apply from 1 April 2015.
12. We also note and support the proposal to exclude Orion New Zealand from the reset at this stage, given Orion's recent CPP Determination which will apply for four of the five years for the forthcoming DPP regulatory period. We note that section 53X of Part 4 of the Commerce Act 1986 (the Act) sets out a process for transitioning from a CPP to a DPP. We consider it is more appropriate to determine how those provisions may apply for Orion towards the end of their CPP regulatory period, and with the benefit of information which is relevant to their circumstances at that time.

2.2 Current and projected profitability

13. Key inputs to assessing current and projected profitability are forecast opex, capex and revenue growth. Other inputs must be determined in accordance with the DPP IMs (such as forecast depreciation).
14. The Process and Issues Paper focusses mainly on options for forecasting opex and capex, as these are the areas where refinements to the 2012 methods are proposed.
15. As a general comment, we submit that it will be necessary to test the previous forecasts against outturns before determining what, if any refinements are made to the forecasting models. We consider it is not adequate to simply assume that previous approaches and models are reasonable, without explicit testing of them, by considering the extent to which forecasts were able to predict actual outcomes.

2.2.1 ENA forecasting working group output

16. The ENA has formed a forecasting working group to consider options for forecasting opex and capex for the DPP. The Commission has participated in this working group as an observer.
17. Frontier Economics has assisted this group and has produced the following reports, which have been made available to the Commission:
 - a) Output 1: Top-down approaches for forecasting EDB costs under a DPP framework, April 2014
 - b) Output 2: Using EDB AMP forecasts under a DPP framework, April 2014

- c) Output 3: Development of approaches to forecast EDB costs under a DPP framework, April 2014.
18. Our comments in the remainder of this section of our submission are consistent with the recommendations set out in the Frontier Economics reports.

2.3 Forecasting opex

19. It is proposed to adopt a similar approach to 2012, and to forecast opex by adjusting a base level for the impact of expected changes in network scale, partial productivity and input prices. Our comments regarding partial productivity factors are included in Section 3. Our comments regarding input prices are included at the end of this section, as they apply to both opex and capex.

2.3.1 Base year

20. It is necessary to determine an appropriate initial value for opex for each non-exempt ENB. The paper puts forward possible options including using 2013 opex, 2014 opex, an average of 2013 and 2014 opex, or a longer term historical average.
21. The ENA itself has not formed a view on the preferred approach to opex forecasting, but notes that the 2014 data reflects expenditure levels consistent with the scale of the network in that year, prevailing prices and current regulatory compliance obligations.
22. If there is to be longer term averaging with past data then it is not appropriate to use non-normalised data. In principle, historical data should be adjusted for scale, input price inflation (not CPI) and changes in regulatory compliance obligations, potentially using the same escalation models that may be used to forecast future opex from the base-line amount.
23. We anticipate that actual 2014 disclosure data will be used where appropriate, for the purpose of determining the final price paths, should they be set with reference to current and projected profitability.

2.3.2 Network scale effects

24. The 2012 reset used an econometric model to estimate the scale effects on forecast opex, using network length and the number of users as proxies for network scale. Frontier Economics have reviewed the 2012 models, and included observations about them in their Output 1 report, including some recommended refinements for modelling both network and non-network opex.
25. In addition, Frontier Economics have considered possible enhanced forecasting models for opex (and capex). These are also described in the Output 1 report. Frontier Economics conclude that their enhanced network opex, non-network opex and network capex models do not have a general tendency to over or under forecast costs. However they note that there are variances between forecasts and outturns for individual ENBs in any given year. Accordingly, further refinements could be made to further reduce these deviations and to ensure there is no systematic bias in the models.

26. In terms of the forthcoming reset, the ENA supports the recommendations of the Output 3 report, as follows:
- *There are a number of ways in which the top-down econometric models used by the Commission in 2012 may be improved right now, and over the longer term. The main areas for further improvement and exploration include:*
 - *Investigation and resolution of some apparent anomalies in data submitted by EDBs under existing information disclosure rules, and clarification of any ambiguous reporting definitions to reduce the chances of similar anomalies arising in future*
 - *Exploration of ways to incorporate time effects in the forecasting models*
 - *Exploration of additional driver variables*
 - *Investigation of ways to deal with short-term fluctuations when forecasting certain driver variables*
 - *Implementation of post-estimation adjustments.*

2.4 Forecasting capex

27. The 2012 reset applied different forecasting approaches to network and non-network capex. For network capex, ENBs' own forecasts were applied, and these were forecasts which were published prior to the decision to use this method. For non-network capex, historical averages were used to generate a forecast non-network capex allowance.
28. The Process and Issues Paper indicates that alternative methods are being considered for the forthcoming reset.

2.4.1 Network and non-network capex

Cap on historical levels

29. One option being considered is to use ENBs' own forecasts subject to a cap relative to historical averages. This approach was adopted for the recent GDB DPP, where a 20% cap above the historical average was applied.
30. The majority of non-exempt ENBs consider this method is consistent with the relatively low cost intent of the DPP as it is easy to implement, and relies on data which is relevant to each business.

Low cost models for independent forecasts

31. Another option is to develop alternative models to forecast capex, or components of capex (and possible components include asset replacement and renewal, system growth, customer connection and other network capex). It is anticipated that the models would differ due to the different underlying drivers of each category of expenditure. In addition, it may be possible that historical or ENB forecasts could be used for some categories of capex, and predictive models for other categories.

2.4.2 Forecasting capex for the 2015 reset

32. The majority of non-exempt ENBs support the use of a cap on historical capex. All support the use of AMP forecasts, along with possible disciplines to verify these forecasts for future resets.
33. The ENA submits that any reliance on historical capex data must consider:
 - a) The appropriate historical period, which will be informed by data availability, the regulatory rules for determining the value of capex, and proximity to the start of the next regulatory period
 - b) Movements in scale over the historical period, up to the beginning of the next regulatory period
 - c) Movements in input prices over the historical period, up to the beginning of the next regulatory period.
34. In setting the level of the cap the Commission should be cognisant of the number of ENBs whose 2014 AMP capex forecasts exceed the allowance provided by the cap on historical costs and therefore would likely need to make CPP applications in order to maintain network performance and reliability.

2.5 Input price indices

35. Input price indices are applied to opex and capex in order to derive forecasts in nominal terms. In 2012, forecasts of economy wide indices (PPI, LCI, and CGPI) were applied.
36. The Frontier Economics Output 1 report includes consideration of input price information for the purpose of deriving expenditure forecasts. This report notes that:
 - a) Lower level, industry specific indices are available
 - b) There are variances between industry subsectors and therefore there is no reason to expect that economy wide indices will match closely changes in ENB input costs
 - c) CGPI and LCI sub indices exist which are relevant to the electricity distribution sector
 - d) Orion and Transpower have recently developed their own weighted average forecast price indices which better reflect their own cost structures
 - e) Forecasting errors may be reduced by combining forecasts from different sources.
37. For the purpose of the 2015 DPP, the ENA recommends that that Frontier Economics' conclusions, as stated in their Output 3 report are adopted, as follows:
 - *There are also a number of possible improvements to the way forecasts of changes in input costs that EBDs face are derived. These include:*
 - *Basing forecasts of cost escalators on industry-specific and asset-specific inflation indices rather than general inflation indices*

- *Applying composite price escalators that reflect broadly the cost structures of EDBs, rather than relying exclusively on forecasts of a single inflation index for each major cost category*
- *Combining input cost inflation forecasts from a range of forecasters to reduce the influence of forecasting errors.*

2.6 Longer term developments

38. The ENA also supports further consideration of possible refinements to forecasting approaches, beyond what may be achievable for the 2015 reset. The Frontier Economics Output 2 report considers possible ways in which ENBs' own cost forecasts may be used for DPP price path purposes, recognising that ENBs will have superior information about their likely future costs relative to the Commission.
39. A number of options are considered including:
- a) More detailed evaluation of the forecasts by the Commission
 - b) Using a weighted average of the Commission's and ENBs' forecasts
 - c) Using ENB forecasts where they fall within a band
 - d) A twin tracking scheme (similar to the UK fast/slow tracked approach)
 - e) Menu regulation (offering ENBs a choice between alternative expenditure allowances and incentive rates).

Menu regulation

40. The recommendation of the Output 3 report is that implementing menu regulation is one way to make better use of ENB cost and forecast data. Menu regulation has been implemented in the UK in order to provide regulators with greater confidence in the integrity of the forecasts provided by regulated businesses.
41. However, the Output 3 report goes on to state:
- *Implementation of menu regulation should be deferred until at least the 2020 reset to give EDBs and the Commission sufficient time to understand the mechanics and implications of the scheme. However, a 'shadow-run' of the scheme could be implemented during the 2015 reset to help interested parties understand how menu regulation could work in practice.*
42. While the ENA is not promoting this option for the forthcoming reset, we are interested in exploring whether it would be possible to shadow the most probable alternatives in this reset, including menu regulation.

2.7 Recommendations

43. For the purpose of setting starting prices for the 2015 DPP reset the ENA:
- a) Supports the proposal to determine which approach to apply when resetting the price path by estimating prices that might apply based on current and

projected profitability, using a similar approach to the 2012 reset, with some refinements;

- b)* Agrees that Orion New Zealand is excluded from the DPP reset at this time, due to their recent CPP determination;
- c)* Submits that it is necessary to test previous forecasts against outturns before determining what if any refinements are made to forecasting models;
- d)* Submits on opex forecasting that the 2014 data reflects expenditure levels consistent with the scale of the network in that year, prevailing prices and current regulatory compliance obligations. If there is to be longer term averaging with past data then historical data should be adjusted for scale and input price inflation and changes in regulatory compliance obligations;
- e)* Notes that the majority of non-exempt ENBs support the use of a cap on historical capex for this reset, while others support further consideration of the relative merits of AMP forecasts for this reset. All support the use of AMP forecasts, along with possible disciplines to verify these forecasts for future resets;
- f)* Submits that the Commission considers the recommendations of the Frontier Economics Output 3 report for potential improvements to top down econometric models and the basis for determining input price indices for expenditure forecasting; and
- g)* Supports further exploration of potential longer term refinements to forecasting methods, including exploring whether it would be possible to shadow the most probable alternatives in this reset, including menu regulation.

3. Allowable rate(s) of change in price

3.1 Proposed approach

44. The Process and Issues Paper notes that the Commission has engaged Economic Insights to undertake a total factor productivity study to inform the setting of the “X” factor, and a partial productivity study of operating expenditure and of capital to inform the estimates of each of these variables. It also has a comment at paragraph 3.14 that states, prior to the study being undertaken; *“Our current view is that if there has recently been a deterioration in partial productivity, this change is likely to be temporary, ie, due to temporary declines in demand.”* The ENA is surprised by this comment, as it implies the Commission has a bias when interpreting any deterioration in partial productivity (i.e. that such a trend is temporary). Furthermore, it appears the Commission assumes that any decline in demand will be temporary.
45. It is important that the Commission interprets the evidence on trends in productivity in the sector in an unbiased manner. We request that the Commission ensure its reasoning is presented transparently with respect to interpretation and application of the results of the Economic Insights’ productivity study, of the productivity study by the Pacific Economics Group (which the ENA has commissioned), and of any other studies that are submitted to the Commission on this topic.

4. Incentives for service quality

4.1 Quality of Supply workgroup

46. In February 2014, the ENA published its “Pathway to Quality” report, which was prepared by the Quality of Supply and Incentives Working Group (QoSI). This working group was convened to assess the need for refining the current DPP quality arrangements consistent with creating a long term incentive for ENBs to deliver services that reflect the outcomes sought by consumers.
47. In agreement with the Commission, the QoSI working group reviewed possible refinements to the current network performance metrics used for price-quality regulation. The findings of this review are presented in the Pathway to Quality report. A number of these findings are relevant to the forthcoming 2015 DPP reset, as acknowledged in the Process and Issues Paper.
48. The remainder of this section of our submission is consistent with the recommendations of the Pathway to Quality report.

4.2 Measuring quality

49. There are a wide range of measures which may be used to measure quality of supply. Of most relevance to the DPP is the level of service provided which is directly attributable to the price paid for electricity lines services (ie: the service which is subject to price-quality regulation). This view differs to the proposition in the Process and Issues Paper that quality could be considered to be everything that a consumer experiences that is not captured in price.
50. The QoSI working group identified that the highest valued service areas were:
 - a) Reliability and resilience - the level and duration of interruptions experienced by customers
 - b) Customer service - the qualitative aspects of the service provided by ENBs
 - c) Power quality - whether power quality falls within statutory limits.
51. These three core areas are also acknowledged in the Process and Issues Paper.
52. The Pathway to Quality report recommended that reliability measures (SAIDI and SAIFI) should be retained as core measures of quality for DPP purposes, as of the measures currently available, they best reflect what consumers’ value most highly. In this respect, we note that factors outside the control of ENBs influence reliability performance, particularly in the short to medium term, which must be considered in developing reliability based default quality paths.
53. The Process and Issues Paper appropriately acknowledges the role of Information Disclosure (ID) regulation in promoting quality of service outcomes consistent with consumer requirements. A broader range of performance measures can be captured

and monitored within ID disclosures than can be accommodated within the DPP price-quality path.

54. The ENA also recommends that if additional quality service measures are to be considered they are introduced first into ID. This will ensure that the measures are relevant, that appropriate and robust information is available, and it will create a historical time series from which observations can be drawn before considering more widespread use for price-quality regulation.

4.3 Pass/fail quality standard

55. The current DPP quality standard can be classed as a “pass/fail” regime, whereby non-exempt ENBs are deemed to be in breach of their DPP if they fail to maintain quality to a specified standard. The current pass/fail approach has been developed consistent with the principle of promoting no material deterioration in service reliability. This is achieved by setting quality standards with reference to the historical performance of each non-exempt ENB.
56. The Commission may choose to take enforcement action (including imposing penalties) should this occur, which deters ENBs from reducing quality. There is currently no regulatory incentive for ENBs to improve quality.
57. There is also a potential disincentive to undertake planned work and incur planned outages, where unplanned outages are higher than expected. As noted above, it is not possible for ENBs to fully control the impact of unplanned outages on their consumers.
58. We note that the Process and Issues Paper suggests that the current DPP quality standard may incentivise poorer reliability performance due to the standard deviation buffer and the two out of three year test. We note that these measures were introduced to better reflect the year on year variations in performance around a historical mean, thus reduce the probability of a false positive (ie: fail), while maintaining consistency with the no material deterioration principle. The ENA does not agree with the proposition put forward in the Process and Issues Paper that ENBs may take advantage of the current arrangements to reduce their reliability performance.

4.4 Revenue linked incentive scheme

59. Consistent with the recommendations in the Pathway to Quality report, the ENA recommends moving to a more incentive based approach to determining the DPP quality standard. This is consistent with international regulatory developments (including in the UK and Australia), as documented in the report. Attachment A provides a short summary of international practice in this respect.
60. Before any changes are introduced however, the ENA submits that any new arrangements, prior to implementation, are rigorously stress tested from the perspective of:
 - a) The costs and benefits
 - b) Data availability

- c)* The incentives that any changes create (both positive and negative).
61. We therefore recommend an incremental approach which delivers achievable refinements for the 2015 DPP reset. We also support potential development of additional incentives for future regulatory periods.

4.4.1 Developing a revenue incentive scheme

62. Subject to the comments made above, the ENA is supportive of further consideration as to whether and how a revenue based incentive scheme could be introduced for the 2015 DPP reset. In this respect we anticipate that a revenue based incentive scheme for non-exempt ENBs would have the following features:
- a)* The quality metrics would be based on Class B (own network planned) and Class C (own network unplanned) SAIDI and SAIFI reliability measures
 - b)* The revenue at risk would be linked to Maximum Allowable Revenue (MAR), it would be capped, and the scheme would be symmetric (ie: revenue could increase or decrease depending on actual reliability performance vs target)
 - c)* Caps and collars or incentive rates (as described in the Process and Issues Paper) would be specified in order to determine the size of the revenue reward or penalty for each non-exempt ENB in response to actual reliability performance.
 - d)* The option for suspending the scheme where major adverse events require sustained and elevated levels of planned outages for subsequent remediation work.
63. It will be important to test alternative options for each of these parameters in order to understand the potential impacts on suppliers, and ultimately consumers. We have undertaken preliminary analysis in this respect, using data available for the current regulatory period.
64. It should be noted that our analysis to date is based on reliability performance which is measured using the existing DPP quality standard methods. We will be undertaking further analysis to investigate potential refinements to measuring reliability for DPP purposes, which will have flow on effects for a potential incentive scheme. We discuss these potential refinements in the next section.
65. Our preliminary analysis has highlighted key considerations for setting the parameters, which are set out below.

Revenue at risk

66. Considerations need to include:
- a)* Level of incentive/penalty necessary to influence capex and opex
 - b)* Consumers' willingness to pay
 - c)* Whether the risk profile is the same for all non-exempt EDBs

- d)* The desire to step gently into a quality incentive scheme for the next regulatory period, and hence to adopt a conservative ‘revenue at risk’ approach
- e)* What components of revenue are included
- f)* Whether additional pecuniary penalties or enforcement action would apply
- g)* How incentives/penalties would be recovered/passed back to consumers in the price path.

Reliability target

67. Considerations need to include:

- a)* Whether the standard deviation buffer is retained, or refined, including introducing a symmetrical buffer
- b)* How SAIDI and SAIFI would be weighted in the incentive scheme
- c)* Possible refinements to determining reliability targets - as described in section 4.6 below.

Incentive rate

68. Considerations need to include:

- a)* Whether incentive rates should be consistent for all non-exempt EDBs
- b)* Should an incentive rate be used, or a cap/collar approach adopted
- c)* Can Value of Lost Load (VOLL) information be used to derive incentive rates
- d)* Should the rates reflect estimates of the cost of improving quality.

Caps and collars

69. Considerations need to include:

- a)* Whether a cap/collar or incentive rate approach be adopted
- b)* Should a standard deviation approach be used, or some other statistical approach.

4.5 Possible adjustment factor

70. A quality of service revenue-based incentive scheme would require reflecting in some way in future periods the revenue implications from service performance in each year. This would be a new feature to the current DPP arrangements, in that service performance in one year could affect allowable revenue in another. In this submission we suggest other possible ex post adjustments, for example allowing an ENB to recover ex post the capex it incurs in energy efficiency initiatives (in section 5), to share ex post volume variances above a certain threshold (in section 6), and to recover additional costs incurred to maintain and replace customer service lines (in section 9). The

common feature in these adjustments is that the level of future prices could be affected by reference ex post to well defined outcomes.

71. The ENA considers such an ex post adjustment mechanism (which we refer to as an “adjustment factor”) could function on an annual basis, or with respect to a regulatory period. The key features of such a mechanism are likely to be:
- a) The net revenue impact (up or down) from the period (whether a year or a regulatory period) is measured and reported. This measurement and reporting could be specified as part of the information disclosure requirements.
 - b) The net revenue impact could be introduced into the adjusted year (or regulatory period) by way of an “adjustment factor” that would sit within the DPP compliance formula in the same way as is currently the case for recoverable and pass through costs. Thus this adjustment factor, expressed as a dollar value, would enable the ENB to adjust its prices upward, or require it to lower its prices, to address the revenue impact.
 - c) In practice there would need to be a lag between the period that is measured and the period in which the adjustment is made, due to the timing of disclosures. This lag would be more pronounced if the adjustment is made with respect to regulatory periods rather than years. In either case, in order to maintain the present value of the adjustment amounts, a time value of money factor would need to be applied.

4.6 Further refinements

72. As noted above, and as described more fully in our Pathways to Quality report, experience with the current DPP quality standard has highlighted opportunities for potential refinements to the reliability metrics used in the DPP. We comment on the most significant of these in the remainder of this section of our submission.
73. We also refer the Commission to the statistical research undertaken by the ENA at the time the current quality standards were set.² We consider that statistical techniques are likely to provide possible solutions to some of the issues noted below.

4.6.1 Extreme event normalisation

74. As reliability metrics can be significantly impacted by extreme events (such as major snow or wind storms, or earthquakes) which are largely outside the control of ENBs, reliability metrics may be ‘normalised’ for the impact of extreme events to better reflect the underlying reliability of an ENB. Attachment A summarises the current approaches adopted in the UK and Australia in this regard.
75. The ENA supports extreme event normalisation for the purpose of establishing reliability measures for the DPP.

² David Harte and Peter Thomson, Statistics Research Associates Ltd, “Towards a robust statistical framework for the assessment of quality of supply by New Zealand electricity networks”, November 2009

76. The QoSI working group has examined the current DPP approach to extreme event normalisation and recommends the following areas for potential refinement:
- a) Normalisation is less effective for networks with large numbers of zero event days (these are typically largely underground networks, and the issue is more pronounced for smaller networks, which have fewer unplanned events). For these networks the boundary values (which are used to identify a major event day (MED), and to adjust the MED observation) are disproportionately high relative to the average annual SAIDI or SAIFI.
 - b) When normalising for a MED, currently the SAIDI or SAIFI for that day is replaced with the boundary value. This means that ENBs record significant outage impacts on those days, despite those events being largely outside their control. In addition, EDBs facing a higher than normal frequency of extreme events than in the historical period are at much greater risk of breach. In other jurisdictions, MEDs may be adjusted using zero or average daily data. The ENA recommends further investigation into these options, including revisiting the original rationale for establishing the MED and boundary arrangements under the previous thresholds regime.
 - c) Normalisation tests are applied to 24 hour periods, and thus fail to capture the full impact of an extreme event, where those impacts also reflect outages which fall occur in subsequent periods. The ENA supports consideration of ways in which to extend the MED normalisation to capture the on-going impacts which occur after the initial 24 hour period.
77. An alternative approach to identifying extreme events could also be considered. A more simplified approach is sometimes adopted, for example the MED threshold is determined as X times the average daily value. The ENA supports consideration of potential simplifications to the extreme event normalisation methods to be employed for the next regulatory period.

4.6.2 Using historical data

Reference period

78. Currently DPP reliability limits are set with reference to the average performance of each non-exempt EDB, derived from a five year period prior to the start of the regulatory period. Other options could include a longer reference period or a rolling reference period in order to provide a more representative dataset for the purpose of establishing the reliability standards.

Network average

79. For practical reasons the ENA supports retaining network average measures for the next regulatory period. Further disaggregation is not possible at this time, as disaggregated data has not yet been collated by all ENBs, on a consistent basis. This is one area where additional ID reporting could be investigated, before considering more disaggregation for DPP purposes.

Planned and unplanned outages

80. One further modification which the ENA is keen to pursue is introducing different weightings for planned and unplanned outages. We support continuing to include both planned and unplanned outages in the reliability measures. However, currently there are incentives for ENBs to defer planned work, in order to avoid planned outages if these outages would give rise to a potential breach.
81. We do not consider that it is in the long term interests of consumers for planned work to be deferred simply to avoid a potential quality standard breach. Planned outages are generally less disruptive to consumers as they are notified in advance, and in many cases scheduled to minimise the impact on consumers (ie: at periods of low or non-critical demand).
82. We therefore suggest that planned outages could be assigned a lesser weighting than unplanned outages in determining the reliability standard to be used for the next regulatory period.

4.7 Next steps

83. We are currently undertaking analysis of ENB reliability data to test how the issues identified above may be addressed for the 2015 reset. Our current analysis is focused on the network wide information which has been disclosed in annual compliance statements. This has helped us in our initial considerations of a quality incentive scheme, but there is still more to be done.
84. Further analysis is also required of the detailed outage datasets which underpin the compliance positions, in order to consider how best to address the points raised in section 4.6 above.
85. We propose to continue with this work stream, and further analysis of potential incentive scheme parameters during the forthcoming weeks. We propose to engage further with the Commission on these topics as soon as practicable, and prior to the Draft Decision.

4.8 Recommendations

86. The ENA recommends that with regards to the service quality component of the DPP:
 - a) Reliability measures are retained as the primary measure of service quality for the forthcoming DPP reset, and any potential additional measures are introduced firstly via ID regulation before further consideration for DPP purpose in the longer term;
 - b) Moving to a more incentive based approach to determining the DPP quality standard, that any changes that are introduced are rigorously stress tested prior to implementation, and that an incremental approach is adopted for the forthcoming reset;

- c)* A number of further refinements to the current reliability measures should be investigated to improve the treatment of extreme event and normal variation and the interplay between the measures;
- d)* Further analysis of reliability data is required before the parameters for an incentive scheme are determined. The ENA is currently undertaking analysis of ENB reliability data and propose to continue with this work stream during the forthcoming weeks, and to engage further with the Commission on these topics prior to the Draft Decision; and
- e)* An incentive scheme would require some form of an adjustment factor to be included in the DPP price path. In this submission we suggest how such an adjustment factor could operate, and also identify how this adjustment factor could be used as a mechanism to address a number of other issues in the current DPP. The common feature of these adjustments is that the level of future prices could be affected ex post by reference to well defined outcomes.

5. Other performance-related incentives

5.1 Expenditure incentives

87. The Issues Paper notes that the Commission will be issuing a proposed incremental rolling incentive scheme (IRIS) for DPPs. The ENA will comment on this proposal once it is released.

5.2 Energy efficiency, demand side management and the reduction of losses

88. The ENA Energy Efficiency Incentives Working Group has submitted a report (EEI Report)³ on behalf of the ENA that identifies possible ways in which ENBs could contribute to energy efficiency, demand side management and the reduction of losses (collectively referred to here as energy efficiency initiatives), and proposes changes to regulatory instruments to improve incentives on ENBs to do so. In this section we draw from that report to identify ways to modify the DPP in order to improve incentives (or remove disincentives) on ENBs to undertake energy efficiency initiatives where they are in the long-term benefit of consumers.
89. The context for these DPP proposals is both practical and legislative. ENBs have long been involved in demand side management to reduce peaks by way of ripple control, and in many cases by pricing in a way to encourage peak shifting. Technology developments, both known and emerging, will increase the tools available to ENBs (and others) to cost effectively undertake energy efficiency initiatives. Thus ensuring ENBs have incentives to undertake such initiatives, where they are to the long-term benefit of consumers, is of practical importance.
90. In terms of the legislative context, section 54Q states:
- The Commission must promote incentives, and must avoid imposing disincentives' for supplier of electricity lines services to invest in energy efficiency and demand side management, and to reduce energy losses, when applying this Part in relation to electricity lines services.*
91. A legal opinion appended to the EEI Report notes:

Section 54Q is unequivocally a mandatory requirement. The word "must" imposes the strongest possible obligation upon the Commission. Different wording would have been used if Parliament intended that the Commission should use its best endeavours or exercise discretion as to whether and when it promoted energy efficiency (such as "take into account" or "have regard to").

³ Electricity Networks Association Energy Efficiency Incentives Working Group, *Options and incentives for electricity distribution businesses to improve supply and demand-side efficiency*, April 2014

92. Our proposals provide ways for the Commission to better meet its s 54Q requirements when resetting the DPP and involve:
- a) Introducing a “D” factor
 - b) Addressing unreliable DPP forecasts of energy efficiency initiatives
 - c) Allowing for more representative depreciation rates in any capex forecasts of energy efficiency initiatives
 - d) Clarifying how the Commission is giving effect to s 54Q.

5.2.1 Introducing a “D” factor

93. Energy efficiency initiatives that result in lower throughput of energy will result in reducing an ENB’s revenue where its pricing structure includes volumetric charges. This outcome creates an obvious financial disincentive to the ENB to engage in such initiatives (which in turn is contrary to s 54Q). One way that other jurisdictions have reduced or removed this disincentive is to introduce a “D” factor that uncouples the revenue to the ENB from changes in actual throughput arising from energy efficiency initiatives.⁴ Another approach in some other jurisdictions is to have general volume true-ups relative to forecasts, or alternatively a revenue cap rather than a price cap, that address implicitly (as a subset) this issue of volume reductions arising from energy efficiency initiatives.
94. The ENA recommends the Commission introduce a “D” factor into the DPP to address this otherwise disincentive for ENBs to invest in energy efficiency initiatives that result in reducing throughput.
95. We note another way to address this disincentive issue (as well as other volume risks) would be to provide for an adjustment factor to take into account all volume variances between DPP volume forecasts and actuals beyond a certain threshold. We describe such a mechanism in section 6.

5.2.2 Addressing unreliable forecasts of energy efficiency initiatives

96. The forecasting of capex in the DPP reset assumes these amounts are known with a reasonable degree of confidence in advance of the time of the reset. Frontier Economics’ work on forecasting models concluded that they were unable to recommend an econometric approach to forecasting non-network capex due to its

⁴ For the New South Wales example of a “D” factor see Appendix K at <http://www.aer.gov.au/sites/default/files/NSW%20DNSPs%20final%20decision%2028%20April%202009.pdf>. As from July 2014 in NSW the AER has determined a revenue cap for electricity network businesses and therefore the specific “D” factor will no longer apply.

variable nature.⁵ Capex related to energy efficiency initiatives will also have a high level of variability relative to historic ENB capex patterns as we expect these initiatives to differ to the ENB “business as usual” activities. Furthermore, given the emergent nature of some of these initiatives, an ENB is not likely to have a well formed and detailed view of the opportunities that will arise over the ensuing five year period prior to the beginning of the regulatory period.

97. From an ENB incentive perspective, the regulatory design related to energy efficiency initiatives needs to allow for and encourage innovation. If it fails to do this these initiatives will not emerge and section 54Q requirements will not be met. This aspect of an ENB’s business is quite different to the “business as usual” aspects of the ENB business for which the DPP was designed. It should therefore not be surprising if the design of appropriate regulatory tools to incentivise these initiatives also differs.
98. The ENA considers a better approach to reflecting these initiatives into the DPP price path would be to do so based on capex amounts spent and commissioned, rather than on those forecast, or alternatively provide for an ENB to recover any divergence in costs between forecasts and actuals. This approach would remove the unrealistic requirement on either the Commission or ENBs to reliably forecast these amounts for the ensuing five years prior to the beginning of a regulatory period, plus it would provide ENBs with the confidence that they are able to recover their costs from these initiatives.
99. This approach could be implemented by way of an adjustment factor that is calculated either each year or at the end of each regulatory period, along the lines described in section 4.5 above.
100. The ID determination already has a definition for capex related to energy efficiency initiatives and provides for its reporting.⁶ That definition is:

Energy efficiency and demand side management, reduction of energy losses; in relation to expenditure, means expenditure on assets or operational expenditure where the primary driver is to improve the efficient provision of electricity line services by-

- *improving energy efficiency, including by increasing the amount of energy services consumed or able to be consumed per unit of energy input;*
- *encouraging demand side management, including by managing consumers’ rate or timing of electricity consumption; or*
- *implementing initiatives that reduce electricity losses;*
- *implementing initiatives that reduce reactive power flows in the network.*

⁵ Frontier Economics found: “However, the model for non-network capex does not fit the data well. This is likely due to the variable nature of non-network capex. In view of this, we cannot recommend an econometric model as the primary approach to forecasting non-network capex.” Page 3 of Frontier Economics, *Output 1: Top-down approaches to forecasting ENB costs under a DPP framework: A report prepared for the Electricity Networks Association of New Zealand*, April 2014

⁶ This definition is on page 168 of the ID determination and the reporting of these amounts is in Schedule 7 on page 112.

101. This definition could be used by ENBs to identify and report the capex each year that would be considered for the proposed adjustment.

5.2.3 Allowing for more representative depreciation rates

102. The approach outlined above would remove pressure on the forecasts of capex for energy efficiency initiatives. However, if forecasts of this capex are retained in some form, the forecasts depreciation rates on this capex need to be more representative of the length of the lives of the assets involved.

103. Currently the DPP IM specifies that all capex which is forecast to be commissioned during the regulatory period is to be depreciated in forecasts using an assumed 45 year total life assumption. Although this assumption has the advantage of simplicity, it introduces disincentives for investing in assets with shorter lives. Many energy efficiency initiatives are likely to involve assets with shorter asset lives and this issue was identified in the EEI Report.⁷

104. ENBs may only be able to recover a small proportion of the total cost of short-life assets (e.g. a 5 year asset commissioned in the first year of the regulatory period), as there is a mis-match between the depreciation rates assumed in the DPP forecasts (based on a 45 year life), and that reported in information disclosures and reflected in the RAB used for the next DPP reset (based on the a 5 year life in this example). An ENB is currently not able to recover in its prices the difference in these depreciation amounts. We note this issue repeats itself in each regulatory period for short-life assets that is it is not only an issue for the period in which the asset is commissioned.

105. This issue could be addressed in the forecast method or by way of an ex post adjustment factor. In terms of the forecast method, it could be addressed by allowing for more representative depreciation rates for this category of capex.

106. In terms of an ex post adjustment factor, any variance between forecast and reported depreciation of these assets could be provided for by way of an adjustment factor, along the lines described above in section 5.2.2.

5.2.4 Clarifying how the Commission is giving effect to s54Q

107. From the perspective of consumers, the success of the measures the Commission takes to give effect to s54Q is dependent on ENBs actually responding to the incentives the Commission ensures are present (or the removal of disincentives) by undertaking energy efficiency initiatives that are to the long-term benefit of consumers. ENBs are more likely to respond consistent with the Commission's intentions if they are aware of those intentions. To that end we recommend the Commission include in its draft and final DPP decision a statement clarifying how it is giving effect to s54Q.

⁷ EEI Report, page iv

108. Previously the Commission has indicated that the requirements of s54Q have been met because ENBs can change the structure of their prices. The ENA notes that an ENB changing its price structures face revenue risks from consumers changing their behaviour by more than expected, or because assumptions may have to be made about the volumes that may attach to each new tariff. This serves as a disincentive to tariff structure changes. Accordingly it would be useful for the Commission to set out how ENBs can avoid that risk, or provide mechanisms to address this concern.

5.3 Recommendations

109. The ENA recommends that the Commission, in order to ensure incentives are in place for energy efficiency initiatives and disincentives are removed for these initiatives:

- a) introduces a “D” factor into the DPP arrangements so that an ENB’s revenue is not affected by reductions in throughput arising from energy efficiency initiatives;
- b) allows for the recovery ex post of a return on and of capex incurred in relation to energy efficiency initiatives, in order to place less reliance on the DPP forecasts for such capex;
- c) allows for more representative depreciation rates (than 45 year asset lives) to be used in the DPP forecasts of capex related to energy efficiency initiatives, or allows for an ex post adjustment to address any variance between forecast and actual depreciation amounts; and
- d) clarifies in the DPP reasons paper (and the draft of this paper) how the Commission is giving effect to the requirements of section 54 Q.

6. Treatment of uncertainty and risk

6.1 Revenue and expenditure forecasts

110. The method the Commission uses to set the DPP involves reliance on forecasts of input prices, of opex and capex, forecasts of the CPI and depreciation to revalue the RAB each year, and forecasts of volumes to derive weighted average prices. We comment in section 2 on ways in which the forecasting of these variables could be improved for this DPP reset. Nevertheless risks inevitably remain that the outturn of these values will differ from those forecast. We discuss below the two most material of these forecast risks and possible ways to address them.

6.1.1 Variance between forecast and disclosed CPI revaluations of RAB

111. The DPP forecasts include an indexing of the RAB each year using forecasts of the CPI and these revaluation amounts are treated as income in the year they occur for the purposes of setting the DPP price path. Under information disclosure the RAB is reported ex post using reported inflation. The RAB reported under information disclosure is used as the base when resetting the DPP price path for the next regulatory period. There is inevitably a divergence between the forecast RAB values used to set DPP prices in one period and the RAB values disclosed using reported CPI and used as the base for setting DPP prices in the next period. There is currently no mechanism to reconcile this variance in RAB values.

112. The absence of a means to reconcile the variance between these two RAB values, or alternatively to reconcile the effects this variance has on MAR over time, results in the indexing of RAB not achieving financial capital maintenance (FCM) as the Commission intended. Similarly, the Commission's intended equivalence (in NPV terms) between an indexed or non-indexed approach to RAB and the absence of a way of reconciling these variances in RAB values does not achieve that equivalence.⁸ The end effect is an ENB's revenue stream is exposed to variances in reported CPI versus the forecast CPI used to set the DPP, the ENB has no control over this variance, and this outcome was not intended in the design of the indexing of RAB.

113. In the current regulatory period, reported CPI has been significantly below the CPI forecasts used by the Commission when setting the DPP price path. The effect of a variance in this direction is ENB's revenues for the period are lower than what they would have been if the reported CPI had been used, that is they are lower than what is implied by the revaluation component of the disclosed RAB values that reflect reported CPI. Without any form of reconciliation of the variance in end-of-period RAB values, an ENB is unable to recoup those foregone revenues in future periods. If the forecast

⁸ See Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper*, December 2010, paragraph 2.8.14.

variance had been in the opposite direction (i.e. forecast CPI was lower than reported CPI), the result would have been reversed.

114. The ENA recommends a wash-up mechanism be introduced as part of the DPP reset to enable recovery in the next regulatory period of sufficient revenue to reconcile the variance in the RAB values as described above. This wash-up could be introduced by way of a revenue adjustment factor as described in section 4.5 above, or there may be other ways to achieve the same outcome.

6.1.2 Variance between forecast and outturn volumes

115. The Commission uses forecast volumes attaching to each price metric to convert maximum allowable revenue (MAR) into weighted average prices. An ENB should be able to expect to recover its MAR. If forecast volumes exceed outturns an ENB will not be able to recover MAR, if they are below outturns it will be able to over-recover its MAR. An ENB's total revenue is relatively sensitive to shifts in volumes and an ENB has little influence over volumes demanded. It is impractical (and unlawful in the case of low-use residential consumers) to set purely fixed charges.
116. In the first instance this risk of a divergence in outturn relative to forecast volumes highlights the importance of the Commission developing and refining its forecasting methods for volumes. The ENA does not accept that the Commission's proposal to update the previous real revenue growth forecasts is reasonable and requests that the Commission revisit the entire model, including considering recent evidence on energy efficiency/conservation trends. The Frontier Economic reports point to ways to improve this forecasting.
117. The current approach exposes some ENBs to significant risks from both forecast error (e.g., NZIER regional GDP forecasts which are an input to the model) and model error as even with the right inputs (e.g., actual GDP) the models do not match actual volume experiences. This creates risks for both consumers and ENBs.
118. In addition to improving the forecasting of volumes, the ENA requests the Commission considers sharing, above some threshold, this risk of volume variances with consumers. This could be achieved by using an ex post adjustment factor, either annually or at the end of each regulatory period, along the lines described in section 4.5 above.

6.2 Compliance risk

119. The Process and Issues Paper addresses uncertainty and risk associated with pass-through and recoverable costs. We consider that price path compliance risk of this nature could be addressed in the forthcoming DPP reset with a view to improving the likelihood that ENBs have a reasonable expectation of recovering the revenue which is consistent with their price path.

120. Currently, due to the perceived consequences of breaching the price path, some ENBs elect to include a buffer below the price path, when setting prices.⁹ Thus, all other things being equal, these businesses do not have an expectation of earning a normal return, which is contrary to the principle applied when setting the price path.
121. The reasons for allowing for a buffer include uncertainty about certain parameters relevant to prices and revenue, at the time prices are set. These include the value of pass through and recoverable costs. In the absence of a buffer, ENBs may inadvertently breach the price path, due to mis-forecasting pass-through and recoverable costs.

6.2.1 Enforcement

122. DPP and CPP determinations are made under sections 52P and 52V of the Commerce Act 1986. If an EDB fails to comply with the price path set out in a determination, it is in contravention of the Act, and may be subject to the pecuniary penalty and offence provisions included under Part 6 of the Act.
123. Under the Part 4A Targeted Control Regime (the ‘thresholds regime’), Assessment and Inquiry Guidelines were published in order to “... *inform interested parties of the Commission’s broad process and analytical framework for assessing threshold compliance and for undertaking post-breach inquiries under the targeted control regime. The objective of doing so is to increase certainty and transparency in respect of the Commission’s approach to these tasks.*”
124. While the Commission has general ‘Enforcement Criteria’, they do not set out the possible enforcement actions and responses for Part 4 breaches. We note that the Commission has also published ‘Enforcement Response Guidelines’; the purpose of which is to describe the Commission’s approach to enforcing breaches of the Commerce Act. However, these guidelines only apply to breaches of Parts 2 and 5 of the Commerce Act, not Part 4.
125. We note that the Commission has previously stated that it intends to develop new Enforcement Guidelines specific to Part 4. However as yet, these guidelines have not been published. It is therefore not clear what approach the Commission will take to investigating breaches of DPPs and the potential penalties or actions which may apply.
126. The ENA supports the development and publication of Enforcement Guidelines for Part 4.
127. We note that the Commission recently reached an administrative settlement with Wellington Electricity to pass back to consumers the value of the small price path breach it reported in 2011/12. We consider that administrative settlements of this nature are a costly way to both the Commission and the ENB of addressing forecast risk.

⁹ In 2012/13, non-exempt ENBs under-recovered by 1.5% of allowable notional revenue in total.

6.2.2 Ascertainable costs

128. We note that the recent gas distribution business (GDB) DPP Determination addressed the mis-forecasting issue by allowing only recoverable and pass through costs which were ascertainable at the time price were set, to be included in allowable revenues. ENA members have considered this option and, while recognising this can address the forecasting risks noted above, have identified a number of potential challenges and issues with this approach, including:

- a) Developing a practical definition of 'ascertainable'
- b) Introducing inconsistencies with ID disclosures due to the lagged nature of the recovery, relative to the costs incurred
- c) Introducing transitional issues between regulatory periods, and regulatory mechanisms (ie: DPP to CPP)
- d) The practical impact of this approach is that one year of non-ascertainable costs are never recovered as there will always be an amount of revenue which has not been recovered despite the costs being incurred (and paid for) by the ENB.

129. Accordingly the ENA submits that a better approach to addressing these price path compliance risks, and removing the need for a compliance buffer, is for an annual wash-up mechanism to be introduced to correct for differences between forecast assumptions and actual results.

6.2.3 Introducing a compliance wash-up

130. The purpose of the wash-up mechanism is to provide more certainty, simplify the ex-post price path compliance process, remove the potential for inadvertently breaching the price path, and ultimately avoid the need for headroom when setting prices.

Overview of a wash-up mechanism

131. We propose that a wash-up mechanism could be implemented as follows:

- a) DPP compliance statements would continue to set out the values for allowable notional revenue (ANR) and notional revenue (NR) for the most recent assessment period, and demonstrate how they are calculated
- b) The difference between ANR and NR would be stated, but the ex-post compliance test would not result in a 'pass/fail'
- c) Any over- or under- recovery would be included in the price path in a subsequent year, adjusted for the time value of money.

132. We note that the adjustment would have to be made at least two years after the over/under- charge occurred, since it would not be able to be determined in time for prices to be set for the immediately subsequent year.

133. The following formula could be applied for this purpose:

$$\text{adjustment to ANR}_t = (\text{ANR}_{t-2} - \text{NR}_{t-2}) \times (1 + \text{time value of money})^2$$

134. We suggest that the wash-up should not be constrained to any specific causes. Unintentional price path breaches could occur for a number of reasons (including mis-forecasting of recoverable and pass-through costs, but also for example where there are unintended consequences following price restructuring), and we consider that the wash-up should be able to account for unforeseen differences due to any reason.
135. The wash-up would necessarily overlap across DPP/CPP regulatory periods. For example, a difference between ANR and NR in the last year of a regulatory period would impact ANR in the next regulatory period.

Forecasting incentives

136. We consider that it may be appropriate to provide incentives to ensure any forecasts made at the time prices are set are as accurate as possible. In this respect it may be appropriate to penalise variances which exceed a certain threshold. We consider the penalties would apply only where NR exceeds ANR (ie: they would be asymmetric) as ENBs may reasonably choose to price below their price path. Possible penalties could include:
- a) Adjusting the time value of money (eg: multiply by 2) if NR exceeds ANR by more than (say) 1%
 - b) Triggering an investigation by the Commission in the event of larger variances, eg: those that exceed (say) 5% of ANR.

Capping the wash-up

137. Another consideration is whether the wash-up adjustment should be capped. This could apply where an ENB systematically charges prices which are materially less than the price path permits. The cap could prevent potentially large price adjustments later in a regulatory period. Without the cap, the wash-up could provide a mechanism to “catch up” previous under recoveries. We consider this is less appropriate where under-recoveries reflect decisions which were not related to price setting uncertainty.

6.3 Volume risk on recoverable and pass-through costs

138. Currently DPP price paths introduce volume risk on the recovery of recoverable and pass through costs. This is due to the application of the quantity assumptions. As the actual recovery of pass-through and recoverable costs reflects a different set of quantities to the lagged quantities used in the compliance test, this allows for greater than intended price increases when volumes are increasing (and vice versa).
139. This anomaly was present in the Part 4A price path thresholds and has never been fully resolved. During the consultation on the initial reset of the DPP, it was noted that by moving to rolling quantities (ie: they are updated each year under the DPP) the anomaly would be mitigated, but not removed completely. We note that the compliance wash-up proposed above does not address this anomaly.
140. Various remedies have been proposed to address the residual anomaly. These include:

- a) Unbundling distribution and transmission prices, such that the prices for each are assessed separately. This approach was previously rejected as it was considered too complex
- b) Using forecast rather than lagged quantities for the compliance test, and an 'unders and overs' mechanism to account for variations between forecast and actual quantities. The use of forecasts introduces the potential for inadvertent breaches of the price path, and this option was not adopted.

141. The ENA supports further consideration of this issue for the forthcoming reset and notes that this could also be addressed via the adjustment factor noted in section 4.5 above.

6.4 Catastrophic risk

6.4.1 Compensating for catastrophic risks

142. The ENA has previously submitted on the Commission's assessment of how catastrophic risks are accommodated under Part 4, in response to the consultations on Orion's CPP application.¹⁰ The Commission ultimately determined that Orion was compensated for additional net costs following the Canterbury earthquakes, but not lower than forecast revenues. The recovery of the additional net costs was implemented using a claw-back allowance.

143. The Process and Issues Paper suggests that the Commission envisages that a similar approach would be adopted for other CPP applications made in response to catastrophic events.

144. It is also suggested that the ability to apply for a re-consideration of the DPP and for a CPP, provide the appropriate mechanisms to address the consequences of catastrophic risks which may arise during a DPP regulatory period.

145. However paragraph 6.21 of the Process and Issues Paper suggests that the Commission:

- a) Prefers the CPP option, because claw-back is available for ex-post compensation, and it is envisaged that this would be used to compensate for net cost impacts
- b) Does not consider that reopening a DPP is a workable option because claw-back is not available within a DPP
- c) Considers that no additional compensation would be provided for lower than forecast revenues prior to a price path reset.

¹⁰ ENA, Submission on Yarrow Report in Relation to Orion's CPP Application, 26 June 2013; and ENA, Comment on the Draft Decision on Orion's CPP Application and Implications for the Future Implementation of Part 4, 18 September 2013

146. The Process and Issues Paper does not consider the impacts of a catastrophic event on the ability of an ENB to comply with the DPP quality standard.

6.4.2 Reopening the DPP

147. The ENA supports extending the IM DPP re-opener provisions to include catastrophic events, as recently directed by the High Court. Consistent with this view, our recent feedback to the Commission on Orion's CPP process¹¹ stated:

The ENA considers that a DPP reopener could better address some of the immediate consequences of a catastrophe for a regulated supplier within a regulatory period. This may include temporary relief from the consequences of breaching the DPP quality standards, and adjustments for unanticipated critical response opex and capex. Subsequently, following the next DPP reset, a supplier could elect to apply for a CPP to address any longer term consequences which are unable to be accommodated through the DPP framework.

This approach could more appropriately allow the supplier to focus on responding to the event and understanding the longer term consequences of the event on their customers and business, before preparing the detailed plans and proposals necessary for a CPP application.

148. While we agree that a CPP can be a suitable option for addressing the impact of a catastrophic event, it is costly, time consuming, diverts resources away from critical response activities and there is a considerable delay before the new price and quality paths apply. As stated above, we therefore consider it is appropriate to allow for the DPP to be reopened in these circumstances, to provide a more immediate and lower cost/resource intensive response than a CPP. This would not preclude a supplier applying for a CPP at a later date.

149. One of the reasons put forward against including a catastrophic reopener in the DPP IMs in 2010, was that there was no baseline opex or capex forecast which could be used against which incremental expenditure could be assessed. However the DPP methods have developed (including the introduction of additional IMs) and assuming the DPP continues to be reset with reference to current and projected profitability, baseline DPP opex and capex forecasts are available for each non-exempt EDB.

150. A reopener also addresses the quality impacts of an event in a timely way, avoiding the uncertainty that can arise (as experienced by Orion) of on-going breaches of the DPP quality standard following a catastrophic event.

Defining a catastrophe

151. In order to be able to apply for a CPP re-opener following a catastrophic event, certain criteria must be met. These are set out in clause 5.6.1 of the IMs. We consider that these criteria are also relevant for a DPP catastrophic event re-opener.

¹¹ ENA, Feedback on setting Orion's customised price-quality path, 11 April 2014, page 4

Claw-back

152. The ENA does not consider that claw-back is the only way in which the unforeseen consequences of a catastrophic event which occur within a DPP regulatory can be compensated for. This is not a requirement for any of the other re-openers which are available under a DPP. We consider that the price path can be adjusted part way through a regulatory period for events which occur within the period, and prior to the adjustment taking effect. We are not aware of any impediment to this in Part 4 or the IMs.

Revenue impacts

153. The ENA also challenges the proposition that should a DPP be reopened following a catastrophic event, the impact of the event on revenue would not be considered prior to the reset taking place. We have previously questioned this approach, and continue to submit that the regulatory response to a catastrophic event should consider all of the risks faced by suppliers, including demand risk, prior to a price path reset.

154. In addition, we are concerned that the Commission appears to be prematurely precluding consideration of one of the possible consequences of a catastrophic event. Orion's experience has shown that it is not possible to predict how a major event of this type may impact a community and an ENB. We do not consider that it is consistent with the IM reopener provisions to rule out from re-consideration, variables relevant to the DPP price or quality path.

6.4.3 Uplift to 75th percentile of cost of capital

155. The Process and Issues Paper suggest that the "practical effect" of using an uplift to the 75th percentile of the cost of capital is to provide a buffer for catastrophic events. The ENA submits that this is not a valid justification for not providing fair compensation to suppliers (either ex ante in price paths, or ex post via re-openers) as the cost of capital has been determined on a basis which explicitly excludes allowances for asymmetric (including catastrophic) risk.

156. The Commission's reasoning to use the 75th percentile was to address the risks of estimation error (of the cost of capital) and the asymmetric effects of such error. It is incorrect to subsequently consider this approach to estimation as providing a "buffer" for other risks.

6.5 Recommendations

157. The ENA recommends that in order to address uncertainty and risk in the DPP, the Commission:

- a) Introduces a wash-up mechanism to enable recovery in the next DPP regulatory period of sufficient revenue to take account of the difference in revaluation rates due to reported CPI versus forecast CPI that has occurred in this regulatory period and which is now reflected as a variance in disclosed RAB values versus forecast RAB values. This wash-up could be introduced by way of a revenue adjustment factor, or there may be other ways to achieve the same outcome;

- b)* Considers sharing the risk of variances in forecast and outturn volumes, above some threshold, with consumers;
- c)* Publishes Enforcement Guidelines for Part 4;
- d)* Introduces a compliance wash-up mechanism to provide more certainty, simplify the post price-path compliance process and remove the potential for inadvertently breaching the price path, and ultimately remove the need for ENBs to allow for “headroom” when setting prices;
- e)* Reconsiders how volume risk on pass through and recoverable costs could be addressed, including via an adjustment factor; and
- a)* Includes a re-opener for catastrophic events for the DPP consistent with the direction of the High Court.

7. Treatment of assets purchased from Transpower

158. ENBs pay Transpower for grid services, and these charges are passed on to consumers, via the recoverable cost mechanism in the DPP price path. Transpower's charges include connection and new investment charges¹² associated with assets which are (generally) dedicated to supplying a distribution network.
159. In recent years, some ENBs have acquired assets from Transpower, and as a result their transmission charges have reduced. In addition, ENB opex and capex may increase to accommodate the increased asset base, and planned and unplanned outages may also increase.
160. Some ENBs are also forecasting asset purchases from Transpower within the next regulatory period. These purchases may be expected to impact transmission charges, opex, capex and outages during the next regulatory period in the same way as described above.
161. When developing the IMs, it was considered that it was likely to be in the long term interests of consumers to ensure that ENBs were incentivised to acquire assets from Transpower, as consumers were expected to benefit from lower delivered electricity prices as a result. Accordingly the IMs include an incentive mechanism whereby ENBs are able to continue to pass through the avoided Transpower charges associated with the assets for a period of five years, for the purpose of the DPP price path.
162. In addition paragraph J2.27 of the 2010 IM Reasons Paper states: “...assets would be added to the RAB from the date of purchase, and the supplier would be able to recover the capital and operating costs from the date of the first reset following purchase”.
163. Attachment C of the Process and Issues Paper sets out a proposed approach for setting the price path and quality standards for the next DPP regulatory period, in the event that ENBs have or are planning to acquire assets from Transpower. Our comments on these proposals are included below.

7.1 Purchases prior to regulatory period

164. The ENA submits that purchases which have been completed, or are expected to be completed prior to the start of the next regulatory period should be reflected in the ENB specific data used to determine the price path and quality standards. This will comprise:
- a) Assets in the regulatory asset base (RAB)
 - b) Associated tax asset data

¹² Also known as CIC charges

- c)* Forecast opex and capex allowances which reflect the ENB's ownership of the assets during the regulatory period
- d)* Relevant historical reliability data that may be used for setting reliability standards (or other quality performance data as appropriate).

165. This approach ensures that the DPP price path and quality standards appropriately reflect the responsibility the distributor has for the assets at the beginning of the regulatory period.

166. In addition it is proposed that a mechanism will be included to adjust the quality standards to reflect the historical quality performance of the assets transferred, from the year of transfer. The ENA also supports this proposal, and notes a similar mechanism has been used in the past in the Part 4A ENB quality thresholds.

167. The ENA notes that the Process and Issues Paper identifies a potential issue for assets which may be transferred in the year immediately prior to the reset, ie: the transfer would not be reflected in 31 March 2014 data. In order to address this issue, the ENA supports the proposal that:

- a)* ENBs supply updated data in response to data requests which may be issued during the consultation period, for transfers which may have occurred following 31 March 2014, and prior to the deadline for the response to the data request
- b)* Additional supporting evidence for other transfers which are expected to be completed prior to 1 April 2015, with the option for a correcting adjustment (which could be included as a recoverable cost) to the price path if those transfers do not actually occur prior to the start of the next regulatory period. In this respect, we note that a correction may also be required to the quality standard.

168. The ENA considers that it is reasonable to apply the same method for determining forecast opex and capex for all assets transferred up to the beginning of the next regulatory period. This is contrary to the proposal put forward in C27 of the Process and Issues Paper to exclude forecast opex and capex allowances for assets transferred after 1 April 2014. We understand that suitable information has been provided by ENBs in response to the recent s53ZD notice to enable a consistent approach to be implemented.

169. We consider this is a more reasonable approach than that proposed because:

- a)* It ensures that the DPP price path and quality standards appropriately reflect the responsibility the distributor has for the assets at the beginning of the regulatory period
- b)* It maintains the effectiveness of the incentives that the Commission has previously considered, in particular, as expressed in the 2010 IM Reasons Paper at J2.27
- c)* There will not be any full year actual opex or capex for any purchases after 1 April 2013. Thus the opex and capex effect for assets transferred post 31

March 2013 will not be fully reflected in the forecast, where that forecast relies on historical data

- d) It is consistent with the approach adopted for Orion's CPP.

7.2 Forecast purchases during regulatory period

170. Transpower assets may also be purchased during the regulatory period. The Process and Issues Paper proposes that the DPP MAR will not be adjusted for forecast purchases as the incentive to purchase assets is provided by the five year recoverable cost allowance equivalent to the avoided Transpower charges for the assets. The ENA agrees with this proposal.
171. It is important that the recoverable cost incentive fully reflects the avoided transmission charges associated with the assets. We note that the transmission pricing methodology (TPM) can lead to differences between the transmission charges for a set of assets and their underlying costs. This is because transmission charges reflect averaging across Transpower's network, including in respect of asset lives, RAB values, asset age, and maintenance requirements. This can result in distortions in the strength of the incentive available, and may in some cases result in a disincentive.
172. The IMs define the five year, avoided transmission charge, recoverable cost allowance in Clause 3.1.3 as follows:

IM 3.1.3 Recoverable costs

- (1) *A recoverable cost is a cost that is-*

...

(b) *a charge payable to Transpower for electricity lines services provided to a non-exempt EDB in respect of the transmission system in accordance with the transmission pricing methodology Transpower uses to determine the prices it charges for its services, as specified in the Electricity Industry Participation Code;*

(c) *a charge payable by an EDB to Transpower in respect of a new investment contract (as 'new investment contract' is defined in the Electricity Industry Participation Code) between those parties, or an equivalent type of contract, subject to the requirement specified in subclause (2);*

...

(e) *an amount of a charge described in paragraphs (b) or (c) that the Commission is satisfied an EDB has avoided liability to pay as a result of the EDB having purchased transmission assets from Transpower, subject to-*

(i) *the requirement specified in subclause (2); and*

(ii) *subclause (4);*

...

(2) *The requirement of this subclause is that in respect of a particular EDB, the Commission's approval for the amount of cost must be obtained in accordance with any process relating to the type of cost in question specified in a DPP determination.*

...

(4) *For the purpose of subclause (1)(e)(ii), the amount is a recoverable cost only in the 5 disclosure years from and including the disclosure year in respect of which the Commission first approved the amount of the cost.*

173. The transmission charges that will be avoided following an asset transfer, may include both connection and new investment charges. As stated above these will reflect Transpower's pricing as applied to the assets transferred.
174. The ENA considers that avoided new investment charges that would also have arisen during the five year window, due to additional investment in the assets which have been transferred are legitimate recoverable costs, consistent with IM clause 3.1.3(1). As it is proposed that no capex allowances are included in the regulatory period for purchases which occur after 1 April 2015, it is necessary to include an avoided investment charge to reflect charges that would have been made, had the assets remained with Transpower, and the investment made by Transpower. The prevailing basis for determining new investment charges can be used to determine the appropriate charge.
175. Absent this, a significant disincentive arises for potential asset transfers which are in the long term interests of consumers, but where investment is required in those assets within the regulatory period. The avoided Transpower charges at the time of the transfer will not provide compensation for subsequent investments.
176. As stated above, it is our view that this is consistent with the intent of IM clause 3.1.3(1). We note that clause 3.1.3(1) also includes the requirement for the Commission to approve the recoverable cost allowance (as per 3.1.3(2)). Currently this approval process is prescribed in the DPP Determination, which includes, amongst other things, the evidence that must be included in DPP Compliance Statements pertaining to the recoverable cost allowance.
177. The current DPP Determination (clause 11.3) precludes avoided new investment charges that would have arisen during the regulatory period from the recoverable cost allowance. We submit that the DPP requirements should be altered to remove this constraint, which will ensure consistency with IM clause 3.1.3 (1)(e), and remove the disincentive created for asset purchases where additional investment in the assets is required during the regulatory period.

7.3 Purchases to be included

178. There may be instances where individual or low value assets are transferred between Transpower and an ENB. We consider that unless asset transfers from Transpower give rise to an avoided transmission charge, they would not be included in the recoverable cost arrangements described above.

7.4 Recommendations

179. The ENA recommends that in relation to assets purchased by an ENB from Transpower:

- a)* These assets are included in the RAB, and associated capex and opex forecasts, where the transfer has been completed prior to the start of the next regulatory period, ie: 1 April 2015, and an adjustment mechanism is introduced to address forecasting variances which might emerge between that date and the time the final determination is made;
- b)* That the recoverable cost allowance for assets transferred during the regulatory period fully reflects the avoided transmission charges specified in clause 3.1.3(1) of the IMs, including new investment charges that would have arisen during the regulatory period had the purchase not been undertaken; and
- c)* That mechanisms to adjust the quality standard following an asset transfer (including those completed prior to and after the beginning of the regulatory period) are included in the DPP quality standard.

8. Customer service lines

8.1 Context

180. Customer service lines are emerging as a significant public safety issue and this issue is expected to increase as the stock of service lines ages. ENBs in general are not responsible for the monitoring, maintenance and replacement of customer service lines, but there are many exceptions to this general rule. However, many customers are not aware that they (in general) are responsible for their service line, but even if they were aware of this responsibility they are generally not well placed to monitor, maintain and replace it. The end result is these lines tend over time to fall into disrepair and cause a public safety issue, and often a dispute arises between the customer and the ENB as to who is responsible when work is required to be undertaken on them.
181. The ENA commissioned Energia to approximate the size of this problem and to recommend approaches to address it, and the Sapere Research Group to recommend how these approaches could be implemented from a regulatory perspective.¹³ The ENA has forwarded these reports to the Commission, along with the relevant legal opinions.
182. The Energia report recommends ENBs offer one of two services to address this public safety issue:
- a) an Inspect, Maintain and Replace service; or
 - b) an Inspect, Notify and Enforce service.
183. The Sapere report and its attached legal opinions describe how this service could be provided within the context of the existing Part 4 regulatory regime. The next and necessary step in order for ENBs to be in a position to be able to implement these recommendations is that the Commission needs to provide a mechanism for the non-exempt ENBs to recover their costs of providing these services.
184. ENBs are not well placed to forecast the costs to service customer service lines as most do not have a history of providing these services. Further, the information needed for the Commission to verify or test such forecasts is not readily available. In this situation the ENA recommends the Commission allow for an ex post recovery of these costs for the upcoming regulatory period, with a view to reviewing that approach for the next regulatory period at which time there may be sufficient information to underpin forecasts.

¹³ Sapere Research Group, *Recommended approach to address customer service lines; Report for the Electricity Networks Association*, 9 December 2013, with attachments; Energia, *Management of service lines: Investigation and solution; Part 1 summary*, 3 December 2012; Russell McVeagh, *Issues arising out of proposal to adopt option 1 and 2 in respect of maintenance and replacement of customer service lines*, 1 October 2013; and Russell McVeagh, *Maintenance and replacement of customer service lines*, 4 October 2013

185. The ENA considers an ex post recovery mechanism could operate along the lines of the adjustment factor described in section 4.5 above, and thereby could apply either on an annual basis or at the end of the regulatory period.

8.2 Recommendation

186. The ENA recommends that the Commission, in order to enable ENBs to address the public safety issues arising in relation to customer service lines:

- a) provide for the ex post recovery of the costs incurred by ENBs to service customer service lines.

Attachment A - An international perspective on service quality

1. Revenue linked quality incentive schemes have become a notable part of international regulatory frameworks for electricity distribution businesses. This attachment describes in more detail the approach taken in the UK and Australia¹⁴ to setting the caps, collars and incentive rates for an ENB.
2. As noted in the QoSI Report the measures utilised in the UK are Customer Minutes Lost (CML) and Customer Interruptions (CI) and in Australian Energy Regulator (AER) utilises System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) to measure frequency and duration of interruptions. CML is equivalent to SAIDI and CI is equal to 100 x SAIFI.
3. The five key features and parameters covered here are:
 - a) Setting reliability targets
 - b) Revenue exposure and the setting of caps and collars for reliability
 - c) Incentive rates
 - d) Major events (normalisation)
 - e) Proposing alternatives.
4. This attachment does not include other aspects of the quality incentive regimes within the UK and Australia, such as customer service measures.

Setting reliability targets

5. Establishing reliability targets for ENBs sets the benchmark for the level of service expected. While the objectives are similar, the UK and Australia take slightly different approaches to establishing these targets:
 - a) In the UK targets are established for CMLs and CIs. Both planned and unplanned interruptions are used in setting the targets but the target for each is established through different mechanisms. Planned interruptions are weighted by 50% and targets established are based on a three year rolling average. The use of rolling data provides the flexibility to reflect the varying requirements for planned outages between years. Targets for unplanned interruptions are established prior to and fixed for the duration of the regulatory control period (RCP). In setting the targets for RIIO-ED1, Ofgem applied a 75:25 ratio between a “first cut” of unplanned CML targets based on performance

¹⁴For jurisdictions that operate under the National Electricity Market are regulated by the AER. These jurisdictions are Queensland, New South Wales, Tasmania, South Australia and Victoria.

benchmarking, and each distributor's current average performance.¹⁵ The data utilised for determining a distributor's current average performance was based on four years of performance data for LV, HV, Distributed Generation, National Grid, and Other Connected Systems, and 10 years for EHV and 132kV. Ofgem have also determined that it will not re-baseline the unplanned targets during the period, but given the longer duration of the RCP, it will apply performance improvement factors through the period. As noted by Ofgem:

“We have decided not to use a rolling target method. While it would allow more responsive targets to be set, we believe the targets would be uncertain. This would create uncertainty surrounding any investment decisions by DNOs as the targets would not be known in advance.”¹⁶

b) Australia measure and reward performance on unplanned interruptions only. The targets are set to the average performance of the last 5 regulatory years on a rolling basis. A key feature is that interruptions that endure over multiple days are attributed to the first day. The performance target within a regulatory period is not permitted to decline. However, there is also provision to bank under or over performance during the regulatory period. As such a buffer mechanism is in place for a year where performance materially differs from the “average” of the last five years.

6. Both the UK and Australia apply a list of exclusions from the reliability performance measurement. These are excluded in order to ensure the performance measurement is only linked to those issues that are within the control of the ENB. Examples of exclusions include:

- a) Extreme weather events and one-off exceptional events (which include vandalism) in the UK
- b) In Australia:
 - Events which exceed the IEEE 2.5 beta derived boundary threshold
 - Load shedding due to under frequency events
 - Load shedding caused by a transmission event
 - Brown out situations
 - Load shedding due to exercise of obligations under legislation.

Revenue exposure and caps and collars

7. Both the UK and Australia utilise the level of revenue exposure to establish a cap and collar for each ENB. That is, an incentive rate and revenue exposure is determined rather than establishing a cap and collar as a variance from the target. This means that all

¹⁵Ofgem, “Strategy decision for the RIIO-ED1 electricity distribution price control. Reliability and safety. Supplementary annex to RIIO-ED1 overview paper,” 4 March 2013, Clause 4.34, pg 23.

¹⁶Ofgem, “Strategy decision for the RIIO-ED1 electricity distribution price control. Reliability and safety. Supplementary annex to RIIO-ED1 overview paper,” 4 March 2013, Clause 4.48, pg 29.

companies face the same marginal incentive rate, but the operational consequence for an ENB will vary depending on the nature of the interruptions faced by each network. Note that as each ENB is significantly larger than those in New Zealand the impact is much more likely to be evenly distributed. The approach in each regime is:

- a) In the UK, Ofgem have established a symmetrical incentive based on a revenue exposure of 250 RoRE bps per annum. That is 250 basis points on a company's return on regulated equity. This is established per licence area for each company and converted to £m for application of the incentive pain / gain amounts.
- b) In Australia, a cap and collar is similarly established by setting a maximum revenue exposure of +/- 5% for all incentive factors (including customer service). The specific level of the incentive for reliability varies by company but with a 1% on customer service the maximum cap of 4% can be placed on reliability incentives. Individual companies can propose higher levels.

Incentive rates

8. Both the UK and Australia use a form of VoLL to establish the incentive rate that applies in the regulated quality regime for the distribution companies:

- a) Ofgem have aligned the incentive rate utilised in the quality regime for DNOs with that established under RIIO-T1 for transmission. It is currently set at £16,000 per MWh. Ofgem note that:

*"For RIIO-ED1 we have decided to align the IIS CI and CML incentive rates with the value of lost load (VoLL) used as part of RIIO-T1. In calculating the CI incentive rate, we have consciously not apportioned the VoLL across CI and CML."*¹⁷

The rate was set for CIs and CMLs in a manner so as not to duplicate the incentive, with the interruption rate for CIs based on the average duration per customer rather than per customer interrupted. However, it is also worth noting that Ofgem allow for Distributors to propose rates that differ from this:

*"Given that we have applied the nationwide RIIO-T1 VoLL evenly across all DNOs, we are willing to consider DNOs setting their own incentive rates in their well-justified business plan. Proposals should include justification for why the incentive rates should differ from those that we have set out."*¹⁸

- b) In Australia the value of customer reliability (VCR) is utilised to calculate the incentive rate. The applied rate is dependent on the customer type (\$95,700/MWh for CBD and \$47,850/MWh for all other segments – adjusted

¹⁷Ofgem, "Strategy decision for the RIIO-ED1 electricity distribution price control. Reliability and safety. Supplementary annex to RIIO-ED1 overview paper," 4 March 2013, Clause 4.11, pg 23

¹⁸Ofgem, "Strategy decision for the RIIO-ED1 electricity distribution price control. Reliability and safety. Supplementary annex to RIIO-ED1 overview paper," 4 March 2013, Clause 4.13, pg 23

for CPI from September quarter 2008).¹⁹ The ratio of unplanned SAIDI to unplanned SAIFI incentive rates are then prescribed by the AER. For CBD customers the weightings of 1.13 for CBD, 0.97 for Urban and 0.92 for Rural is applied. This recognises the difference in the value of the occurrence of interruptions verses the duration.

Major events and normalisation

9. Both Australia and the UK exclude major events from the datasets utilised to establish targets and incentive pain/gains. The normalisation of the data ensures that the underlying performance of the ENB is measured rather than creating incentives for events which are outside their control. The mechanisms used in the UK and Australia differ, but have similar key features. These are:
 - a) The UK utilise an event threshold of eight times the daily average fault rate at high voltage to indicate the occurrence of a severe weather event. Should an event exceed this threshold then it is excluded from the performance dataset. The UK also uses a second threshold for one-off exceptional events outside the network company's control. The threshold is set where 25,000 customers and two million minutes are lost.
 - b) Australia utilises the IEEE 2.5 beta method as used in New Zealand to identify exceptional events. The difference being that if an event breaches the threshold it is excluded from the dataset.

Alternative proposals

10. In both the UK and Australia, ENBs are permitted to propose alternatives to the parameters established by the regulator, provided that the rationale is described and the case is accepted by the regulator. In the UK this has been explicitly allowed for in setting the targets, and incentive rates. In Australia, ENBs have the option of proposing alternatives to many of the parameters of the STPIS regime.

¹⁹Australian Energy Regulator, "Electricity Distribution Network Service Providers: Service Target Performance Incentive Scheme," November 2009, Clause 3.2.2(b), pg 10