



**Submission on the Default Price-quality
paths from 1 April 2015: Process and issues
Paper**

Unison Networks Limited

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PUBLIC VERSION

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1. EXECUTIVE SUMMARY

1.1 Opening comment

1. The Commerce Commission (Commission) released the *Default Price-quality paths from 1 April 2015 for 17 electricity distributors: Process and issues Paper* (“Process and Issues Paper”) for consultation on 21 March 2015. This submission constitutes Unison’s response.
2. Unison has read and contributed to the ENA submission and supports its conclusions and recommendations.

1.2 Unison’s key submissions

3. In this submission, Unison makes the following key points:
 - a) Unison submits that the Commission should be clear about the objective and requirements for resetting the DPP. We suggest that an objective along the following lines would be appropriate, as it is currently not clear what standard the Commission is working to in establishing the components of the reset:

Prices, quality standards and DPP mechanisms should be set such that an averagely efficient EDB should expect to at least earn its cost of capital over the course of the regulatory period, face appropriate incentives to meet consumers’ reasonable quality expectations and to promote energy efficiency, demand-side management and reduce losses where these are in the long-term interests of consumers.
 - b) In meeting such an objective, the Commission should undertake robust empirical testing of all reasonably available models to establish the best possible forecasts of operating, expenditure, capital expenditure, input price inflation and real revenue growth. While the methods used in the last reset are familiar to submitters and were consulted upon,¹ the Commission was constrained in the data and models that were evaluated during the last reset. It was not clear that the Commission tested model performance against actual data (e.g., by comparing in-sample forecasts against actuals or “back-casts” against historical data) to validate that the models provided sound forecasts;
 - c) Unison notes the work done by Frontier Economics to further explore statistical models using “drivers” and recommends that the Commission further develop this work to assess its validity in forecasting operating and network capital expenditure. In general, Unison submits that the use of models to escalate from a base level of expenditure, rather than models that estimate absolute expenditure requirements are likely to provide a more robust basis for achieving the objective outlined above;
 - d) Unison supports the Commission undertaking further work to examine the performance of survivor models in explaining network replacement capital expenditure;

¹ See paragraph X3 of the Process and Issues Paper.

- e) In the event that no adequate models of network capital expenditure can be developed (i.e., the models do not explain past movements in capex effectively) then Unison supports the use of AMP forecasts subject to a cap on normalised historic levels of capital expenditure. Unison's preliminary view is that a 20% allowance above normalised levels of historical capital expenditure is reasonable;
- f) Unison notes that Frontier Economics has not been able to establish effective models to explain variations in non-network capital expenditure. Unison submits that the approach used at the last reset of taking average expenditure on non-network capital expenditure is not consistent with incentivising efficient investment in non-network assets. Unison recommends that the Commission revisit the depreciation rates that apply to non-network capex, and consider options to reduce or eliminate the effects of forecast error in setting non-network capex allowances (for example, considering wash-up mechanisms or suspending depreciation on expenditure above base-line amounts);
- g) Unison does not support the Commission using all-industry forecasts of input price inflation to forecast EDB-specific inflation. The Commission relied on high correlations between sector-specific LCI and PPI indices and the corresponding all-industry indices to justify this approach, but Unison's analysis indicates that the correlation coefficients were calculated using the indices themselves, not the changes in the indices. When the correlation between growth rates are calculated there is little or no correlation between the all-groups measure and the corresponding sector measure and therefore the Commission's contention that all-industry measures are good proxies is not supported by the data;
- h) Unison therefore recommends examining alternative approaches to forecasting input price inflation, including extending forecasts available in the Orion CPP determination and Transpower's IPP application. The Commission should also take account of sector-specific information on average growth in labour costs presented in the Frontier Economics report. It highlights that EDBs and independent electrical contractors have faced wage growth that has systematically exceeded all-industries labour cost inflation;
- i) Unison supports the recommendations in the ENA submission to develop an incentive-based regime for quality, subject to ensuring that there is a robust basis for establishing targets that are not effected by extreme weather events. The current approach of substituting the boundary value on extreme days unfairly penalises businesses that experience a higher frequency of extreme events in the compliance year compared to the period where targets are set. An incentive-based scheme that has penalties for sub-par performance would not be appropriate if the frequency of bad weather determines the outcomes;
- j) Unison is one of the few companies that is subject to claw-back of delayed revenues from the 2012-2015 regulatory period. Unison submits that the cost of debt is not the appropriate means of compensating EDBs for the time value of money caused by the delay, as there is no guarantee that the delayed revenues will be forthcoming. As the Commission has made clear in the Orion CPP determination, EDBs bear volume risks and the claw-back amounts are to be recovered as part of general revenues, not fixed loan amounts to each consumer, payable regardless of consumption levels etc. If the

Commission maintains its view that the cost of debt is appropriate, then Unison should have the option of recovering the clawback amount in the first year of the 2015-2020 regulatory period.

4. Unison looks forward to contributing to the development of the reset DPP. The remainder of this submission sets out the basis for these recommendations in more detail.

2. GENERAL APPROACH

2.1 Objective of setting the DPP paths

5. In this section we address the overall framework and context for resetting the DPPs and how this impacts on the process and objectives that Unison submits the Commission should be meeting.
6. Section 53K of the Commerce Act sets out the objectives for default price-quality regulation, as requiring relatively low cost mechanisms be used to reset prices and quality requirements, with EDBs able to apply for a CPP where their individual circumstances require some customisation of prices and quality requirements. CPPs are intended to be the exception, not the norm.
7. The Orion CPP determination has highlighted that applying for a CPP is an extremely costly process (direct and opportunity costs) and carries with it significant risks.
8. Accordingly, the Commission is required to set DPP paths whereby EDBs not requiring any step change in capital expenditure can have a reasonable expectation of at least earning their cost of capital over the regulatory period without needing to apply for a CPP. This means an objective process must be followed to establish the “best” forecasts of critical variables that go into the forecasts of “current and projected” profitability.
9. A key concern that Unison held at the last reset was that the Commission did not follow a rigorous process to test its forecasts and to demonstrate that the forecast was indeed likely to be the best of available options (or if this analysis was undertaken, then it was not provided transparently to stakeholders). For example, despite requests from submitters, there did not appear to have been attempts to validate modelling/forecasting approaches (even broadly) against historical information (e.g., through back-casting).²
10. At paragraph X3 the Commission provides a clear statement of intended approach:

In our view, there would be little reason to depart from the approaches that we have relied on when resetting default price-quality paths, unless new issues become apparent, or new information is available. Our existing approaches reflect a number of rounds of consultation, and are familiar to most of our stakeholders.
11. Unison is concerned at this approach, as it indicates that there is a burden on stakeholders to persuade the Commission of an alternative approach. It is important to recognise the context of the previous reset, which was completed under time pressure and with limits on available data. While we agree that stability in methods used may be

² In developing the operating expenditure forecast model the Commission used extensive statistical testing to establish that the model performed well in explaining cross-sector variation in operating expenditure, but it was not evident that testing was carried out of how effective the model was in explaining variations in operating expenditure over time, which was the purpose for which the model was ultimately employed.

useful in providing greater certainty to stakeholders, this does not absolve the Commission from undertaking a thorough review of the methods used in the previous at the previous reset to ascertain how well the models performed and select alternative models where these provide more accurate forecasts.

12. Unison submits that the Commission should adopt a more open approach, whereby the Commission carefully evaluates all reasonably practically available options and identifies the “best” forecast. Investor confidence and certainty is also a function of transparent and rigorous processes being followed to identify the best solutions using clear evaluation criteria.
13. As noted above, Unison submits that when setting starting prices and the CPI-X path under the DPP the Commission should adopt an overall objective. We submit that this should be something along the lines of:

Prices, quality standards and DPP mechanisms should be set such that an averagely efficient EDB should expect to at least earn its cost of capital over the course of the regulatory period, face appropriate incentives to meet consumers’ reasonable quality expectations and to promote energy efficiency, demand-side management and reduce losses where these are in the long-term interests of consumers.

14. We suggest that the focus be on the “averagely efficient EDB”, denoting that businesses do not have to be “super-efficient” to make their cost of capital, but also that a business with below average efficiency may earn less than the cost of capital. This averagely efficient EDB would also be expected to invest in and maintain its network for the benefit of consumers. The references to quality standards, “DPP mechanisms” and “energy efficiency, demand-side management and reduction of losses” in the objective ensure it is consistent with the overall requirements in the Purpose Statement and section 54Q. By “DPP mechanisms” we mean the approach to setting the price path, recoverable costs, wash-ups etc, need to be consistent with meeting the objective.
15. The reference to “expect to at least earn its cost of capital” means that the Commission needs to consider the possible distribution of outcomes in establishing each particular variable or parameter, so that in a statistical sense a distributor at least expects to earn its cost of capital, (but of course this is not guaranteed). For example, the Commission’s Orion CPP Determination makes it clear that EDBs now bear demand risk from catastrophic events, so the asymmetry in the distribution of volume outcomes would need to be taken into account in establishing expected volumes.

2.2 Criteria for selecting forecasts, setting DPP requirements

16. Against this overall objective, we note the criteria that Frontier Economics suggested as the basis for selecting a forecast:
 - “The approach should be based on recognised, well-established and robust techniques. To this end, the techniques we have explored in this report are based on standard statistical forecasting procedures.
 - The technique should not be unnecessarily complex, and should be consistent with the objective of the DPP regime to be relatively low cost to implement.

- The method should be transparent and readily auditable.
 - The method should minimise forecast error (on which more, below).
 - The forecasts resulting from the approach should be consistent with the purpose of Part 4 of the Act.¹¹ We interpret this to mean that the resulting forecasts should, in expectation, result in allowances that permit the recovery of efficiently-incurred costs.
 - The data required to implement the approach should exist at present, or should be collectable over time, and should be reliable and robust.”³
17. Further explanations are provided in the Frontier report of how forecast errors may be minimised.
18. In terms of process, Unison submits that the Commission should seek to work with EDBs and other stakeholders as closely as possible during the development of forecasting approaches. The use of workshops to test ideas and explain thinking as early as practicable is likely to provide a better opportunity to achieve the objective outlined above and assist in selecting the “best” forecasts, given constraints on time, data and resources.
19. In the following sections we address specific elements of the proposals in the Commission’s Process and Issues Paper.

³ Frontier Economics (2014) *Output 1: Top-down approaches for forecasting EDB costs under a DPP framework: A Report Prepared For The Electricity Networks Association Of New Zealand* page15

3. REAL REVENUE GROWTH FORECASTS

3.1 Commission's proposal

20. The Commission proposes that the approach adopted for the 2013 reset would be retained, with updates for more recent information.

3.2 Unison's submissions

21. In the 2013 reset, the weighted real revenue increase for Unison was 0.0%, based on 0.3% growth in residential volumes and -0.3% growth in commercial/industrial volumes. The Commission assumed that there would be no improvement in energy intensity/efficiency.
22. Due to structural changes in Unison's designations of customers to different categories, only limited data is available to compare against the Commission's forecasts, however, we note that over the past two years:
- a) Mass-market ICP growth has averaged 0.2% per annum;
 - b) Mass-market volume growth has averaged -3.5% per annum;
 - c) Commercial ICPs have increased 5.1%;
 - d) Commercial demand in Hawke's Bay has declined -1.2% per annum.⁴
23. It is clear therefore that the models used to forecast real revenue growth for Unison were inaccurate and overall over-estimated Unison's volume growth. We have also calculated that the trend in residential consumption per consumer is around -1% per annum. In the time we have had we have not investigated the sources of forecast error, and whether, if the Commission's model contained actual data for population growth and GDP growth, it would have forecast the changes above. Given the significant variances, which we understand exist across a number of EDBs, Unison submits that the Commission should therefore:
- a) Undertake analysis of forecasting performance of the model used at the last reset;
 - b) Revisit use of Statistics New Zealand's population projections as the basis for forecasting residential consumption growth. Statistics New Zealand's population projections were determined in October 2012 and it would be useful to examine the performance of the median series against actual EDB's experience of changes in numbers of ICPs. It may be more accurate to adopt, for example, the low projection estimates for some areas, or to use trend analysis as the basis for forecasting in the next reset;

⁴ A combined Hawke's Bay and Central Region commercial demand growth figure cannot be calculated as some commercial customers in the Central Region have been put on industrial contracts, so comparisons in commercial volumes are now more difficult to calculate, and we have not sought to carry out this analysis in the time allowed.

- c) Review the selection of 0% improvements in energy efficiency. As noted above Unison's experience is that after normalising for temperature impacts there has been a trend decline in mass-market volumes of around 1% per annum;
- d) Examine forecast accuracy of NZIER's regional GDP growth forecasts, relative to actual experience and consider alternative approaches if it is shown that NZIER's forecasts and the model adopted for forecast industrial and commercial growth is inconsistent with out-turn volumes;
- e) Examine wash-up mechanisms that would de-risk reliance on these forecasts for both EDBs and consumers.

4. OPEX AND CAPEX GROWTH FORECASTS

4.1 Commission's opex proposals

- 24. The Commission proposes to use a similar approach used in the 2013 reset, where a base level of expenditure is escalated for price, quantity and productivity movements.
- 25. The Commission is seeking views on:
 - a) Whether data should be averaged to form a base-year level of operating expenditure;
 - b) Whether there is support for estimating changes to a base-level of operating expenditure, rather than seeking to forecast levels;
 - c) Whether there are additional adjustments that should be made to operating expenditure forecasts for any step changes in operating expenditure; and
 - d) Possible alternative approaches to forecasting input price inflation.

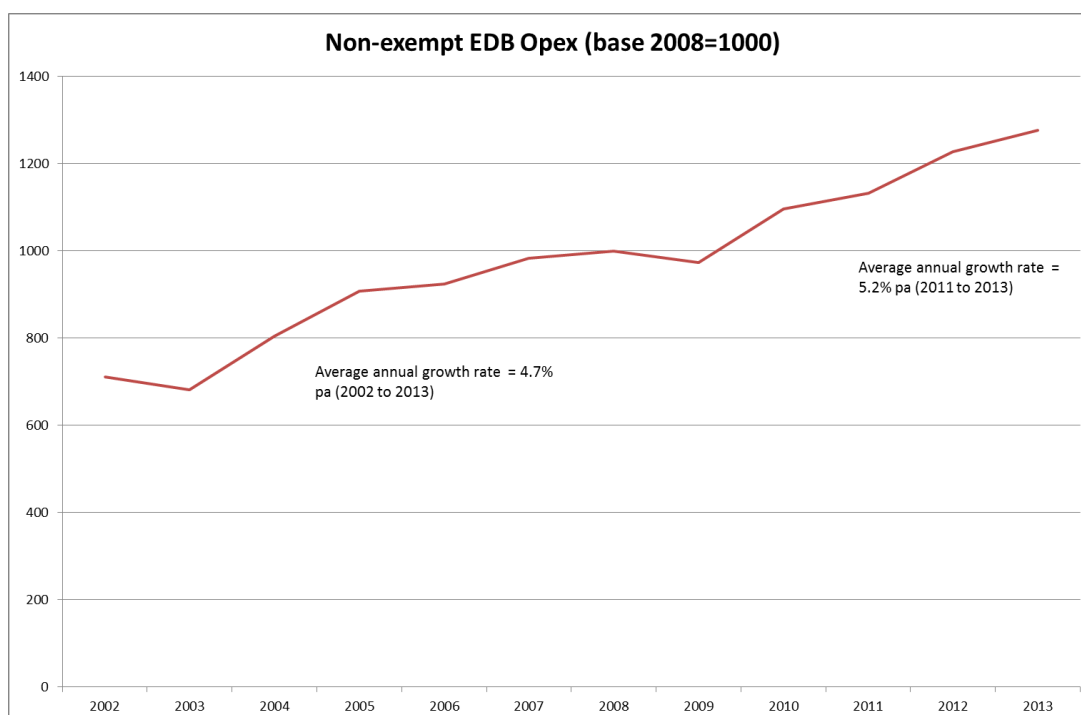
4.2 Unison's submissions

Overall approach

- 26. Unison is supportive of the general framework to take a base level of operating expenditure and escalate it forward for price, quantity and productivity movements. We have not seen evidence that an absolute approach would provide forecasts that reflect EDB's reasonable operating expenditure requirements.
- 27. To reinforce the points made earlier, Unison submits that the Commission should undertake an evaluation of forecast accuracy of the previous methods used, not simply roll-over existing methods without evaluation. As was noted in submissions on the 2013 reset, there was little evidence that the Commission undertook empirical testing to establish that the chosen forecast approach was effective for use in developing a time-series forecast. The cross-section model used to estimate the impacts of scale on operating expenditure, combined with

trend models of the drivers into those equations and input price inflation forecasts did not appear to be validated against historical movements in operating expenditure. It is not sufficient that econometric models have good statistical explanatory power in explaining cross-sector variations in levels of operating expenditure (which is what the Commission relied on in the 2013 reset), they must perform in explaining time-series variations in expenditure.

28. Unison calculates that at the last reset, the Commission’s opex model (incorporating price, quantity and partial productivity effects) forecast average annual operating expenditure growth of 3.4% per annum from 2011 to 2015 across the 16 non-exempt EDBs.
29. As illustrated in the following chart, across non-exempt EDBs growth in operating expenditure has been material over the past 12 years, with average annual growth of 4.7% per annum over the entire period and average of 5.2% per annum over the past three years. This represents both price and quantity growth across the non-exempt EDBs. On the face of it therefore the Commission’s models appears to have systematically under-stated average growth in opex. Unison submits that therefore the Commission should have cause to review the performance of its models (the combined forecasts of price, quantity and productivity movements) as the cumulative difference between forecast growth rates and out-turn opex growth rates is significant over time.



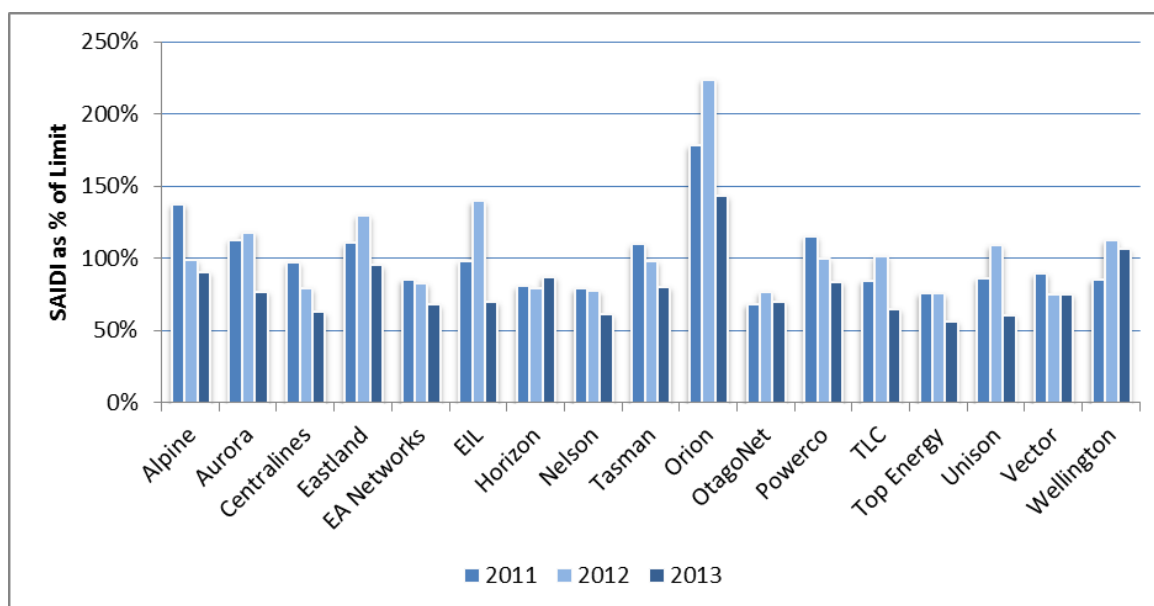
30. At the 2013 reset, the Commission rejected use of time series methods for forecasting operating expenditure because it may penalise some businesses who had been effective at controlling expenditure and reward those that had not. On this basis the Commission justified use of the econometric approach using trend drivers to forecast future changes in opex. Unison submits that the Commission should not completely disregard trend information on operating expenditure in evaluating model performance. If a model has little or no correspondence to observed trends (e.g., industry averages) then there is high risk that the

model will either systematically over or under-estimate EDBs reasonable operating expenditure requirements. Post-modelling adjustments may be required to ensure that forecasts provide sufficient revenues to cover costs.

Base-line operating expenditure

31. In regard to establishing a base-line level of operating expenditure, Unison recognises the issues the Commission has raised with sole reliance on 2013/14 data, but notes the following issues with averaging with prior years that would need to be addressed if a longer time series of information were used:

- a) 2012/13 was a benign year from a weather perspective, with many EDBs reporting record quality performances, as illustrated in the following chart, which shows SAIDI performance as a percentage of the quality limits. This had the effect of significantly reducing requirements for emergency repairs and maintenance expenditure. Of the 16 non-exempt EDBs (excluding Orion) 12 experienced substantially lower SAIDI compared to 2011 and 2012;⁵



- b) Simple averaging would not take into account price and quantity (scale) effects between years, so an approach is required to convert 2012/13 expenditures into comparable values for averaging. This could be achieved by applying the appropriate price inflators and scale effects (e.g., using the same model to escalate the base-year expenditure) to normalise the historical data to 2013/14 terms;
- c) 2013/14 data reflects the most current operating environment confronting EDBs (e.g., the impacts of legislative change, local government requirements / rating approaches,

⁵ Source: PwC based on EDB compliance statements.

and business processes⁶). Accordingly, in any averaging process it may be more appropriate to apply a weighting factor to historical data (e.g., 25%:75% 12/13:13/14 data) rather than applying a simple average.

Partial productivity estimates

32. Unison notes that the Commission has engaged Economic Insights to provide research on trends in industry-wide and operating partial productivity measures. The Commission states at paragraph 3.14 that the Commission's current view is that if there has been a deterioration in partial productivity then this change is likely to be temporary and may be due to temporary decreases in demand. This indicates that if the Commission finds a positive trend improvement in partial productivity then this will be used to reduce opex allowances, but if recent trends are not positive then the results will be set aside. We also urge the Commission to be transparent about how it has formed its current view.
33. In many respects, Unison is surprised that the Commission would consider a decline in demand a temporary phenomenon. Over the past decade power prices have increased substantially, driven initially by rising wholesale and retail price increases and more recently significant transmission and in a few cases distribution price increases. Average residential retail electricity prices since February 2000 have increased by 98%⁷, compared to a 41%⁸ increase in the CPI over the same period.
34. Although long-run demand elasticities are low for electricity, they are not zero. The Electricity Authority's recent survey of electricity consumers also highlighted that only 20% of consumers reported "Do not make much effort" to manage their electricity usage.⁹ Accordingly, Unison submits that the appropriate working assumption for the Commission to make is that any decline in productivity resulting from a fall in demand is a permanent effect, and that it is more likely that consumers will continue to look for opportunities to reduce their power bills.
35. Unison also observes that there are a number of supply-side factors that are also driving potential productivity declines (including relative to the rest of the economy). A significant proportion of expenditure is on maintaining and repairing infrastructure. This substantially involves transport and people related costs. We are not aware of significant transport-related efficiencies (indeed in Hawke's Bay the "Safer Roads" initiative has reduced speed limits on a number of key arterial routes by 20%, increasing travel times). Changes to Health and Safety legislation are also likely to impact negatively on productivity as additional precautions are introduced to further reduce the risk of adverse outcomes. Being a high-hazard industry

⁶ For example, in 2013/14 Unison adopted a new pole-testing technology which applies a small mechanical force to poles and measures the level of deflection. This data is then compared against expected movement levels and an improved understanding of the remaining pole life is achieved. The technology itself is expensive and takes longer to use resulting in higher opex, but will result in long-term improvements in asset risk management (some poles that would have been replaced early can be left in service and some poles that would have passed other inferior tests will be removed earlier than otherwise). A key benefit of the technology is improved public safety outcomes, but use of this technology was not reflected in previous years' operating expenditure levels.

⁷ Source MBIE *Quarterly Survey of Electricity Prices* February 2000 and February 2014 data.

⁸ Source RBNZ Online Inflation Calculator.

⁹ UMR (2014) *Report: Charge Transparency*. Electricity Authority p13

changes to health and safety legislation may have a relatively greater impact on EDBs compared to the average of the economy.

36. On the positive side, some productivity benefits are likely to be realised from increased use of electronic mobility solutions (e.g., tablet devices that allow in-field access to network information), although we anticipate that the key benefits from this will be improved build-quality as field-crews are better able to access network standards, which may not be reflected in output measures.
37. Overall, Unison's *a priori* belief is that productivity growth compared to the rest of the economy is likely to be relatively lower based on the following key considerations:
- a) The network is largely fixed and must be maintained in its current state, irrespective of changes in demand. Given the slow replacement cycle, improvements in network equipment (e.g., requiring less maintenance) will not materially impact on productivity for long periods, noting also that there is not significant innovation in fundamental network equipment (poles, wires, cross-arms, switches, transformers etc);
 - b) There is strong reason to believe that relative electricity use will further decline as power prices encourage consumers to switch discretionary uses to alternatives, make energy efficiency improvements (we note the strong dollar makes imports of more energy efficient appliances, double glazing etc more attractive) or simply reduce demand. Unison has observed that (adjusted for weather) there has been a trend decline in usage per consumer, such that compared to 2005, the average mass market consumer has reduced demand by around 600 kWh per annum (~10%). We understand that other EDBs have similar experiences; and
 - c) There are not obvious areas to significantly improve labour productivity relative to the rest of the economy, given requirements for significant travel and time taken to manage public and employee safety appropriately.

Step changes in operating expenditure

38. As noted in the ENA submission, EDBs are actively promoting to MBIE that EDBs take greater responsibility for maintaining and owning services lines in order to manage public safety concerns. Consumers have low level of awareness of their ownership of service lines and do not take steps to proactively maintain them. A step change in operating expenditure would result from a change in industry approach to the management of service lines. Unison supports ENA's submissions that such costs are difficult to forecast *ex ante*, and therefore initially the long-term interests of consumers would be best served by an approach that allows EDBs to recover their costs via the recoverable cost mechanism.
39. While Unison expects to incur additional costs to manage strict liability claims relating to quality of supply under the changes to the Consumer Guarantees Act, we do not have information to ascertain at this point in time the likely magnitude of this impact.
40. Unison also expects to incur additional costs of employing Health and Safety professionals to manage the additional requirements envisaged under the forthcoming changes to Health and

Safety Legislation. The additional labour cost is estimated at least at an additional 0.1% to 0.2% of revenues, but we have not estimated any costs relating to enhancements of reporting systems and processes that may be required to ensure all new obligations under the legislation can be met. Unison notes that the regulations associated with the Health and Safety Reform Bill have yet to be released, but these are likely to set out the more substantive impacts on EDBs.

41. Unison is also expecting to incur costs associated with meeting building code requirements for essential facilities. At this point we are undertaking investigation work to assess the options and costs of meeting new standards. Costs will potentially be significant and apart from some substation seismic strengthening work have not been incorporated in Unison's asset management plan.
42. Unison is not aware of any changes in the operating environment that would lead to a step decrease in expenditure. Insurance premium increases appear to have levelled off, and rates still substantially exceed levels in existence prior to the Canterbury earthquakes. A significant concern is that even the limited earthquake cover we are currently able to achieve will be removed if New Zealand experiences another earthquake event that results in insurance losses. We have been advised that New Zealand was fortunate that the Seddon earthquakes did not cause material insurer losses, with EQC absorbing the great majority of claims.

Input price inflation

43. Unison does not support the Commission's proposal to use the same approach as at the last reset to forecast changes in input price inflation.
44. Unison's key submission (re-iterating earlier comments) is that the Commission must validate whatever forecasts are used to set input price inflation estimates against actual observed experiences. Given the relatively high skill levels required in the sector, highly unionised labour force and significant competition from overseas markets (especially Australia) these factors have a significant bearing on labour cost inflation that cannot be ignored.
45. At the last reset the Commission dismissed use of sector specific indexes as follows:

C37 We do not agree with submissions that have suggested using more sector-specific price indices.¹⁷² Using an all industries forecasts is appropriate as it is likely to provide a good proxy for sector-specific indices, which are hard to predict individually.¹⁷³

FN 173 Based on the limited information available, the all-industries LCI has a correlation of over 97% with the Electricity, Gas, Water and Waste Services LCI. The all-industries PPI has a correlation of 71% with the Electricity, Gas and Water PPI and a correlation of 64% with the Electricity and Gas Supply PPI. Analysis of New Zealand Statistics ANZSIC06 LCI data and NZSIOC PPI (input) data (source: www.stats.govt.nz/infoshare).

46. Unison has sought to replicate the results of the Commission's correlation analysis without success. We measure the correlation between movement in the all-industries LCI and Electricity, Gas, Water and Waste Services LCI at -0.39 and the correlation between movement in the all-industries PPI and Electricity, Gas, Water and Waste Services PPI at

0.00. In short, there is no correlation in growth rates. The closest we could come to the Commission's numbers was to measure correlations between the indices themselves (not the movements in the indices) which is not a legitimate method of measuring correlations and thereby establishing the suitability of using one index to proxy for another.¹⁰

47. Unison refers the Commission to the Frontier Economics Output 1 report which references data provided by a remuneration consultant, which has measured for different skills categories the rate of change in wage rates of 25 EDBs and electrical contractors.¹¹ The data demonstrates that there is a systematic gap between economy-wide labour cost inflation and sector-specific wage inflation. It appears that there was a structural break affecting both the general and sector specific wage inflation rates following the GFC where both growth rates reduced, but there remained a significant differential of at least 1.5% above the general LCI.
48. Unison also refers the Commission to the numerous examples of EBAs in Australia which set multi-year wage increases for Australian EDBs. A constant bargaining chip played in New Zealand is that wage rates in Australia are higher and therefore wage rates in New Zealand must increase to prevent workers from migrating. As an example, the agreement between Jemena and the Electrical Trade Union of Victoria¹² provided for 4.0% annual wage increases in 2011 and 2012, whereas if EDBs had followed the Commission's model in those same years wage increases would have been 1.7% and 2.0% and New Zealand wage rates would have fallen a further 4.2% behind their Australian counterparts. [

.] **Unison Confidential Information.**

49. Unison also observes that significant effort was put into the Orion CPP and in Transpower's IPP proposal to forecast components of input price inflation. Unison submits that the Commission should evaluate whether those forecasts can be extended for use in the DPP reset, subject to the caveat that NZIER's all-industries LCI forecasts are not reflective of actual labour cost inflation being experienced by the sector, and systematically underestimate actual wage inflation experience.

4.3 Commission's capex forecasting proposals

50. At this point the Commission does not have a fixed view on the approach to be used for forecasting capital expenditure requirements. The Commission refers to previous concerns raised with using supplier's forecasts of capital expenditure, but that alternatives may be difficult to develop. The Commission is seeking specific input on:
- a) Using capped distributor forecasts;

¹⁰ Just about any two indices will be correlated even if the underlying rates of change are uncorrelated.

¹¹ Frontier Economics (2014) *Output 1: Top-down approaches for forecasting EDB costs under a DPP framework: A Report Prepared For The Electricity Networks Association Of New Zealand* page92

¹² https://www.etuvic.com.au/sites/etuvic.com.au/files/eba.2010-2013.jemena_asset_managment.pdf

- b) Whether there are modelling alternatives to distributor forecasts;
 - c) Whether it may be appropriate to forecast components of capital expenditure (e.g., using age-based survivor models);
 - d) Combination approaches where the results of modelled expenditure are compared with distributor forecasts and distributor forecasts may apply if within a certain variance from the model forecast, otherwise a cap would apply.
51. With respect to capex input price inflation, the Commission is silent on a proposed approach to forecasting input prices. We assume, however, that the Commission is similarly inclined to adopting the same approach as used at the last reset, whereby capex was escalated at a forecast of all-industries CGPI inflation.

4.4 Unison's submissions

Capex quantity growth

52. Across non-exempt EDBs growth in capital expenditure has been material over the past 5 years, with aggregate average annual growth of 6.1% per annum.¹³ From the period 2002 we estimate annual average aggregate capital expenditure growth was 11.5% per annum, with capital expenditure of \$129 million in 2002 growing to \$455 million in 2013. These figures represent both price and quantity growth across the sector. At the risk of gross repetition, Unison again submits that if statistical models are ultimately used to forecast capex requirements, the models need to be tested against historic data for statistical "goodness of fit".
53. At this point in the process, Unison submits that the Commission should continue to explore different available options for forecasting capex. In particular, we note that Frontier Economics have identified econometric models that explain cross-sector variances in network capital expenditure based on a number of explanatory factors. These models should be considered by the Commission and assessed further for forecasting accuracy against historical data and compared with AMP forecasts.
54. Unison also supports the Commission committing resources to developing survivor models to explain replacement capital expenditure. Even if such models cannot be developed to a state that is considered fully robust for direct use in setting capital expenditure allowances, the results may provide a further source of cross-check against other models.
55. In regard to potential use of capped EDB forecasts of expenditure, Unison submits that such approaches have merit where the Commission has not been able to identify models that do an adequate job of explaining historic variations in capex, to ensure that EDB's reasonable capital expenditure needs are met.

¹³ Source PwC Information Disclosure data. Under the 2004 disclosure regime, capex data included acquisitions of networks. These years have been normalised by taking averages of the immediately prior and following disclosure years.

56. Unison notes the 20% cap on expenditure levels used in the Gas DPP Determination. To put this number in context, over the three year period to 31 March 2013, Unison's un-normalised average capex was \$32 million per annum, so a 20% cap would provide up to \$6.4 million in additional capex per annum. Assuming a real WACC of 6% and 2% depreciation rate, a cap at 20% would provide Unison with an additional cumulative revenue allowance of \$7.68 million over the regulatory period. Assuming that Unison's distribution revenues over the period remain similar to current levels (~\$100 million per annum), this equates to 1.5% additional revenues compared to if the Commission provided only historical levels of capex over the five year regulatory period. This highlights that incremental capex above historical levels has only minor impacts on revenue over a 5 year regulatory period. Unison's preliminary view is that a cap of 20% in aggregate capex over the period may be reasonable for most EDBs and provide a degree of flexibility to increase capital expenditure requirements from historical levels.
57. We do observe, however, that for some EDBs (particularly smaller businesses) a 20% cap may be unduly restrictive, because lumpy capital expenditure requirements (e.g., building a substantial new line or new substation) may dwarf base-line historic expenditure levels. It may be necessary to provide some process where the 20% cap may be relaxed for such businesses that can submit evidence to support the need for such lumpy expenditure requirements.
58. Unison also notes that under a capping approach, the Commission would also need to ensure that historical expenditure levels can be normalised for any unusual circumstances. For example, in 2012/13 Unison undertook two major unanticipated customer capital projects which diverted internal significant contracting resources, but did not result in corresponding increases in the RAB. In one case, capital contributions offset the value of commissioned assets, and in the other case there was no commissioned asset because it was for the connection of a generator and outside of the regulated distribution service. Unison re-prioritised the remainder of its capex programme, rather than engage short-term resources, but this leads to what on the face of it appears to be a reduction in capex for the year.
59. A process whereby EDBs can furnish appropriate evidence to normalise for such effects should be considered to ensure that historical data is a reasonable starting point for comparison against future asset management plans. Such considerations are also relevant if a base-line level of capital expenditure is used to escalate from.

Input price inflation forecasts

60. Unison reiterates the comments made above about the need to ensure that price inflation forecasts are likely to be representative of sector-specific inflation. In the last reset the Commission stated:

B24 The most dependable source of information about future changes in capex input prices for each industry is the Capital Goods Price Index (CGPI) for all groups. We consider that this provides a good proxy for industry-specific indices, which are hard to predict individually. Unison expressed doubt that this will accurately predict sector-specific price inflation, but recognised that there is no ready alternative, so accepted its use at this reset.

61. As stated above, the Orion CPP and Transpower IPP submissions contain forecasts of components of the inputs to capital and operating expenditure. By adopting industry-wide assumptions of the component weights, the Commission may derive more representative forecasts of input price inflation. Unison recommends that the Commission does not simply default to use of the all-groups CGPI forecasts as the basis for forecasting capex input price inflation, but explores alternatives.

Non-network capex

62. As set out in the Frontier Economics Output 1 report, non-network capex is volatile and very difficult to forecast. They were unable to identify an accurate forecast model that could explain variances between businesses or over time.
63. At the previous reset, the Commission forecast non-network capex based on historical averages. Additionally, the same depreciation rate applied to non-network capex in the Commission's financial model, despite non-network capex (e.g., software) often having considerably shorter lives than network capex.
64. These approaches create significant risks to both consumers and EDBs. For example, if an EDB forecasts to install a new SCADA (cost in the \$ millions) then this would not be reflected in historical data and by the time the price path is reset, up to 60% of the asset could have depreciated away if it has a 10 year life and the asset is commissioned in the year immediately prior to the reset. Conversely, if an EDB has come through a period where it has made significant investments in non-network capex, but this will fall-off in the ensuing regulatory period, then capex forecasts may be excessive. Overall, however, it would be difficult for EDBs to get business cases to stack up for lumpy non-network capex under a regulatory approach that relies on historical averages as the baseline.
65. Unison submits that the Commission should consider potential alternatives to the approach to non-network capex forecasts used at the last reset. The previous approach creates strong dis-incentives to invest in lumpy non-network capex, especially at the start of the regulatory period. The options that could be considered include:
- a) Use of AMP forecasts;
 - b) Setting a baseline non-network capex expenditure allowance and allowing for a wash-up at the end of the regulatory period. If the Commission was concerned that this could create adverse incentives to over-spend on non-network capex then this could be subject to some form of scaling (e.g., only 95% of the under or overspend to be washed-up);
 - c) Suspending depreciation on non-network capex above the base-line amount, so that EDBs can at least recover the full amount of depreciation on non-network investments;
66. Applying for a CPP to address a lumpy non-network capex investment is not a suitable solution. The amounts of expenditure are material, but not such that it would warrant the full costs of applying for a CPP.

5. QUALITY PATH

5.1 Commission's proposal

67. The Commission proposes that it will move away from the current pass/fail scheme to an incentive-based scheme where EDBs are rewarded or penalised for quality changes relative to a target level of quality.
68. The Commission has identified that there may be some adverse incentives created by the current pass-fail scheme (that EDBs may seek to manage to the limit) or seek to breach one year out of three). The Commission considers that a revenue-linked quality incentive scheme may better encourage EDBs to provide quality (SAIDI and SAIFI) that consumers prefer.
69. The Commission's initial proposal is a scheme based on:
- a) Setting a target level of quality;
 - b) An incentive rate that applies to variations from the target level of quality; and
 - c) A "cap and collar" on revenues at risk from the regime.
70. Issues to be resolved are:
- a) How to set the above targets, incentive rates and caps and collars;
 - b) Approach to data normalisation;
 - c) Enforcement approaches where quality performance is "consistently at or below the collar".

5.2 Unison's submissions

71. Unison supports a change from the current pass/fail regime to an incentive-based scheme. However, as the ENA submission notes, there is significant work to be done to better understand how parameters would be established.
72. Unison agrees that it would be prudent to adopt a cautious approach initially, however, a balance needs to be struck where there is material enough amount of revenue at risk and incentive rates strong enough that there is a meaningful set of incentives for EDBs to face. A reasonable starting point would be to establish incentive rates that link to measures of the values of lost-load. It may be relatively more difficult to identify cost-based incentive rates, as they are likely to be highly variable, depending on the nature and coverage of any particular solution.
73. In Unison's view, a critical area for attention is the process of setting targets and normalising data for extreme events. The current approach of substituting the boundary value on days where there is an extreme event leads to a perverse outcome where the frequency of extreme events in a year is largely determinative of measured annual quality performance. The

frequency of bad weather should not determine compliance or attainment of rewards/penalties.

74. As the Commission notes, when measured over short periods there will be statistical variations in quality performance. Unison also submits that there will likely need to be a dead-band where performance is considered statistically indistinguishable from target performance and no penalties or rewards would apply.
75. Unison submits that these issues are likely to be complex and it will be important that the Commission resources development of the quality regime appropriately and ensures that there is meaningful opportunity for engagement.
76. Finally, there may also be practical limits on how sophisticated the regime can be. For example, as the recent storms in the South Island have demonstrated there can be significant lingering effects that result from storms, such that even though the power may be back on as temporary repairs are put in place, further planned outages are required to make permanent repairs. It may be difficult to normalise for such events, so Unison submits that the Commission should also consider “over-ride” mechanisms where the operation of the scheme may be suspended for particular EDBs that experience such severe events that it would be unreasonable to punish them for experiencing a prolonged repair period.

6. CLAWBACK

6.1 Commission's proposal

77. A small number of EDBs were required to suppress their prices during the last regulatory period due to rate-shock concerns and for under-recoveries of revenues in the 2012-13 year as a result of the delay in resetting prices.
78. The Commission has proposed that EDBs be permitted to recover their outstanding claw-back amounts as a recoverable cost spread over the regulatory period with a time-value of money adjustment set at the cost of debt.

6.2 Unison's submissions

79. Unison has written to the Commission seeking an explanation of the Commission's original reasoning as to why the cost of debt is appropriate to apply to claw-back amounts. As the Commission noted, in the 2013 Decision paper the Commission stated that in its view there is not any systematic risk associated with recovering claw-back amounts, however, no explanations or evidence were provided by the Commission to under-pin this position.
80. The expert report from CEG in 2012¹⁴ provided that if claw-back amounts were to be recovered from consumers as part of general revenues then the WACC should apply as the discount rate, whereas if the claw-back amounts were a guaranteed payment then they should effectively be seen as a loan from EDBs to consumers and the cost of debt should apply.
81. The Commission's proposal is that claw-back amounts should be recovered as part of general revenues under the price path calculation, but Unison has no means of ensuring that it is able to recover the claw-back amount. Under the compliance requirements, Unison would be permitted to set prices such that prices in each year multiplied by quantities in the t-2 year can recover the overall allowable revenues, but if volumes fall relative to the t-2 quantities (which Unison has directly experienced over the past few years) or there is a catastrophic event (for example, Napier becomes uninhabitable following an earthquake/tsunami) then the claw-back amount would not be recovered and there is clearly a shareholder risk associated with not being able to recover such.
82. The Commission has asked for evidence on whether volume risk is material. Clearly in the event of a catastrophic event, there is a material risk of not being able to recover the amounts. Were Hawke's Bay to experience a tsunami event similar to the 2011 Japanese earthquake then it would not be a case that there is simply a further delay in recovering the claw-back amount, but that Unison may overall be impaired in its ability to recover revenues over a substantially smaller population base. As the Commission has made clear and as a practical reality EDB's shareholders ultimately do bear volume risks.
83. Even short of a catastrophic event, given there is no proposed wash-up of volumes Unison would be at risk of material volume changes year-on-year. Incremental revenue changes are

¹⁴ CEG (2012) CEG (2012) *Application of claw-back: A report for Vector*

recovered through volumetric charges as we seek to maximise fixed charges (i.e., if Unison had an additional \$3 million of revenues to recover it would all be recovered by way of increases to volume-based charges as we consider that fixed charges are already at practical maxima). In the last year Unison experienced a decline of 5.5% in residential volumes (kWh), an 11% decline in commercial demand (kW) and 7% decline in commercial volumes (kWh). These are clearly material year-on-year volume movements which create risks for shareholders to bear.

84. If the Commission maintains its position that the recovery of claw-back amounts are relatively riskless, such that they can be financed at the cost of debt, Unison requests that it is an option for the claw-back amounts to be recovered in the first year of the regulatory period. Although this exposes Unison to the risk that 2015/16 volumes would be lower than in 2013/14, the compounded differences between the cost of debt and WACC outweigh this risk. In addition, Unison's actual weighted-cost of debt exceeds that likely to prevail under current market conditions.
85. In summary, Unison submits that:
- a) The Commission should adopt the WACC in compensating investors for the delayed revenue recovery from 2012/13;
 - b) If a) is accepted then Unison agrees with the Commission's proposal to spread the claw-back amounts over the regulatory period; and
 - c) If a) is not accepted and the Commission insists that the cost of debt be used to adjust the delayed recovery of revenues, then Unison submits that EDBs should have the option to recover the amounts in the first year of the regulatory period.