



**Submission on the Default Price-quality
paths from 1 April 2015: Draft Decisions**

Unison Networks Limited

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PUBLIC VERSION

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1. EXECUTIVE SUMMARY

1.1 Opening comment

1. This submission constitutes Unison's response to the two papers released by the Commission on 4 July 2014: "Proposed Default Price-Quality Paths For Electricity Distributors From 1 April 2015" ("Proposed Default Price-Quality Paths Paper") and "Low Cost Forecasting Approaches For Default Price Quality Paths" ("Low Cost Forecasting Paper").
2. Unison has read and contributed to the ENA submission and supports its conclusions and recommendations. We have not sought to comment on all issues raised in the Commission's consultation papers, but focus on issues important to Unison.
3. As a general comment, now that the Commission has released its full suite of papers and models, Unison's view is that the Commission has started the consultation process too late and the timetable for responses is too constrained. Unison had not expected the quantum of papers or models and the lengthy delay in releasing the IRIS material, which is complex, has compromised the consultation process.
4. We appreciate that stakeholders must now try to stick to the consultation timeframes, given the fixed deadline for completing the DPP determination, however, the Commission needs to be flexible in receiving additional materials submitted after the deadlines for each paper. We are particularly concerned that the inter-dependencies between the forecasts under-pinning the price path and the incentive mechanisms may be not be fully understood and result in unintended outcomes.

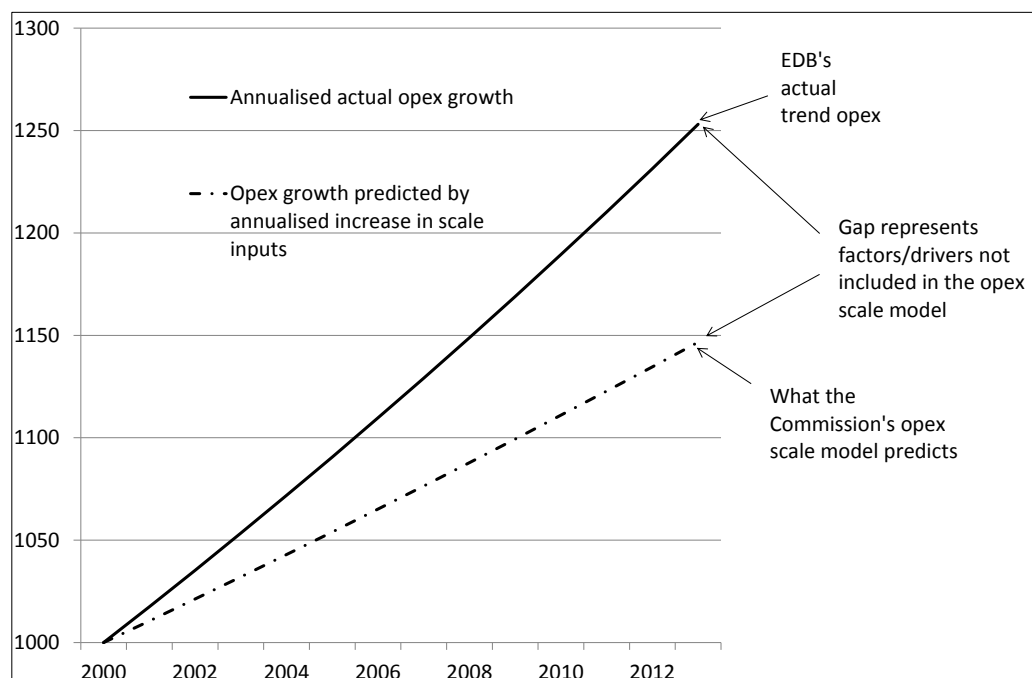
1.2 Unison's key submissions

5. In this submission, Unison makes the following key points:
 - a) The Commission's collective proposals for forecasting Unison's costs and volumes over the five year regulatory period on an *ex ante* basis lead Unison to expect to earn less than the WACC (as we have in current regulatory period); in particular
 - b) The Commission's operating expenditure escalation model is not an accurate forecasting model and systematically under-forecasts required operating expenditure ("opex") requirements. If the model performed accurately it would broadly match the observed trend in opex growth over time, but it does not - by a large margin. The trend growth in total industry opex from 2000 to 2013 was 26.4%, as measured in Economic Insight's ("EI's") productivity study.¹ Using data sourced from the EI study on growth in customer numbers and circuit length and inputting it into the scale models used to forecast opex, the Commission's approach forecasts total opex growth over the period of only 14.7% - a 45% under-forecast. It is therefore demonstrable that the econometric models do not perform as accurate forecasting

¹ Economic Insights (2014) *Electricity Distribution Industry Productivity Analysis: 1996-2013* p25, Table 4

models with significant unexplained variation remaining after accounting for the impacts of scale.² This variance is illustrated in the following chart:

Figure 1: Gap between (annualised) opex predicted by Commission’s scale adjustment model and EDB’s actual (annualised)³ opex 2000 to 2013⁴



- c) The reason the Commission’s proposed scale escalation models perform so poorly is that there are other time series drivers that are not being adequately captured in the econometric models. We note that the econometric models only explain variation between lines companies, but not movements in opex over time.
- d) The PEG study which uses an approach to specifying output and inputs consistent with the framework being used in the Commission’s forecasting model shows that there is a “productivity” gap of on average 2% between input and output growth. Unison submits that this measured gap which is attributed to “productivity” represents increasing requirements on EDBs that are not reflected by the growth in outputs (e.g., higher quality services, improved health and safety, maintaining aging assets, increased regulatory compliance activities, meeting new regulatory requirements etc and higher actual sector input price inflation compared to the all-industries measure). Unison recommends that the

² The extremely poor predictive power of the network opex model is also demonstrated in Figure A1 on page 52 of the Low Cost Forecasting Paper. For example, the model predicts for one EDB $\ln(\text{network opex})$ of around 8.5, but actual $\ln(\text{network opex})$ is around 8.9. When converted back to forecast and actual network opex values of \$4.9m and \$7.3m respectively, this highlights that the model has a 49% error in predicting actual opex. Figure 3 of Jeff Borland’s Econometric review further highlights this, showing substantial modelling prediction errors that are camouflaged by expressing the absolute differences in natural logs.

³ For convenience, we have used the annual average change in scale variables and opex to show the results. The same end-point would be reached if we used the actual year on year variances.

⁴ Source data is from EI’s Productivity Study and Commerce Commission for the network and non-network scale elasticities.

opex productivity growth factor should be set at -2%, as measured in the PEG study, to address the measurement error in the opex forecasting model;

- e) The inaccurate opex escalation approach is compounded by the proposal to select an artificially low base level of expenditure, with the 2012/13 year used as the starting point. As the evidence provided in Unison's submission on the DPP Process and Issues Paper demonstrated, the benign weather conditions in 2012/13 led to an abnormally low level of expenditure in 2012/13. For Unison it was the **best** year ever for quality performance by a substantial margin, thereby leading to substantial reduction in "Service interruptions and Emergencies" from the year prior. The ENA submission provides compelling evidence that the 2012/13 year was the anomalous year, not 2013/14, for the majority of EDBs.

While Unison understands the Commission's theoretical concerns that EDBs face an incentive to undertake actions to increase expenditure in the base year, we note that a substantial majority of operating costs relate to people, including field staff to undertake maintenance activities on our network. Unison would suffer substantial reputational damage from employing people for the base year and then dismissing them in the year following. Unison is also a consumer-owned EDB, with profits largely recycled back to its Hawke's Bay consumers. We have no interest in artificially inflating costs to the detriment of our consumers. Accordingly, we recommend that the Commission:

- i. Normalise 2012/13 data for benign weather conditions in 2012/13; and
- ii. Calculate a weighted-average "base year" using 2012/13 and 2013/14 data;

In making this submission, this approach would still require Unison to cut expenditure below what we consider optimal levels, but we consider this is a reasonable approach to apply across EDBs for the purpose of the DPP reset, as we note not all EDBs experienced higher opex in 2013/14 than the prior year;

- f) The Commission's forecasts of volume growth are optimistic. In particular, Unison has experienced a trend decline in energy use per consumer in the residential category of around 1% per annum over the past ten years. Per user consumption has declined from 7,600 kWh per annum to 7,000 kWh. The Commission's contention is that energy use per consumer will stabilise. The Commission needs to recognise the economic reality outside of the main centres, especially Auckland and Christchurch, is challenging. The Commission needs to recognise that:
- i. Not all regions are experiencing strong GDP growth;
 - ii. Electricity prices are continuing to increase (even if the increases are "moderating");
 - iii. Mortgage interest rates are rising, further reducing net disposable incomes;

- iv. Replacement appliances are more efficient;⁵
 - v. There is strong consumer interest in reducing electricity;⁶
 - vi. There are numerous initiatives to subsidise and promote energy efficiency and uptake of solar PV.
- g) Unison recommends that the Commission:
- i. Adopt a 1% per annum energy efficiency/conservation factor in its forecasts of billable energy volumes; and
 - ii. Add a correction factor to adjust for differences in actual and forecast volume movements.
- h) The Commission needs to make corrections to the approach to Unison's data for the following issues:
- i. An update of Unison's AMP forecasts that has resulted from the delay in a substantial customer project as a result of the customer's decisions. In summary, a key part of Unison's 2014 AMP included a [] **Unison Confidential Information** for a major farm development investment in the Central North Island. As a result of customer-driven delays the timing of this project has changed, so that assets that had been forecast to be commissioned in this year will be commissioned in subsequent years. Unison should not be penalised by timings driven by consumers, whereby a lower level of assets will be commissioned this year than forecast (which would be subsequently 100% corrected for in the capex wash-up) and a higher level in following years, which would be subject only to the 20% retention factor. Unison is not seeking an increase in capex, just a re-profiling for a significant customer driven project;
 - ii. Calculation of asset disposals. Unison's auditors incorrectly required Unison not to dispose of assets that had been sold for scrap as a result of a mis-interpretation of the IMs, which was cleared up at the Commission's ID workshop in March 2014. As a result, Unison's prior year disposals have been understated. This has been corrected in the 2013/14 disclosures with a reduction in the RAB to remove the disposed assets. In the Commission's draft determination a sum of only \$305k per annum is used as the basis for forecasting disposals. Based on the corrected interpretation Unison's disposals average \$1.340 million per annum from 2010 to 2014. The Commission's model needs to be updated for a higher level of disposals and losses on disposal of assets, based on this corrected average. Unison

⁵ See the report from Sapere submitted by the ENA.

⁶ See the UMR research conducted on behalf of the Electricity Authority. UMR Research (2014) *Report: Charge Transparency* Section Three.

intends to provide information to show more accurately the actual timing of disposals;

- iii. Unison’s non-network capex prior to 2012/13 was based on a different business model than exists now. Hence, using data prior to 2012/13 to calculate the historical average non-network capex understates the true average;

Unison intends to provide this information in a Director certified form with the forthcoming section 53ZD response.

11. Overall, Unison wishes to register its frustration that the Commission has not followed the consistent advice of submissions on the Process and Issues Paper and in submissions on the post-2012 reset review that the Commission needs to undertake analysis to test its models for forecasting accuracy and apply approaches that do an effective job of broadly reproducing actual performance. Although it is accepted that the models will not perfectly predict EDB’s expenditure requirements and volumes, the models should be broadly capable of reflecting actual performance, especially when compared against aggregate industry movements or averages.
12. The evidence provided in the ENA submission on EDB’s financial performance in 2013/14 shows substantial shortfalls from achieving the WACC and, in particular, the more strongly commercially minded EDBs have under-achieved. This provides a strong indication that the models used in the last reset to forecast opex and real revenue growth, which have the most direct bearing on profitability, have systematically led to insufficient revenues to cover costs.
13. The Commission’s proposals are to roll-over the models and key assumptions used at the last reset with only minor updates. On the evidence to date, adopting such approaches will continue to lead to inadequate revenues to cover costs, which is not a sustainable position or consistent with the objectives of Part 4 or DPP regulation. CPPs should only be a last resort, to deal with companies requiring a step change in expenditure.

1.3 Summary of recommendations

14. The following table summarises Unison’s recommendations, with references to the relevant paragraphs of Unison’s submission:

Issue	Recommendation	Paragraph references
Forecast accuracy,	The Commission needs to test for forecast accuracy, by considering how well forecast models perform in (broadly) matching historical experience	15-20; 32; 45-53
Real revenue	Commission should seek advice from NZIER on whether Taupo/Rotorua region GDP growth	31;

growth	<p>forecast is reasonable, as possible distortion from growth in Tauranga.</p> <p>Commission should seek advice on forecast accuracy of NZIER regional GDP growth forecasts.</p> <p>Commission should adopt a 1% per annum improvement in residential energy use per consumer.</p> <p>A wash-up mechanism should be introduced so that neither EDBs nor consumers face risk of real revenue growth forecast inaccuracy.</p>	<p>32</p> <p>33-38</p> <p>38 (b)</p>
Operating expenditure	<p>The scale forecast models perform poorly in explaining historical operating expenditure growth. The Commission should adopt Pacific Economic Group's (PEG's) partial factor productivity growth rate estimate of -2%, reflecting trend growth in unmeasured variables driving opex higher. PEG's measure is to be preferred because it is internally consistent with the Commission's scale forecast model; EI's is not.</p> <p>Include 2013/14 data in the calculation of the base year opex. Specifically Unison recommends the Commission should:</p> <ul style="list-style-type: none"> a) Normalise 2012/13 data for benign weather conditions in 2012/13; and b) Calculate a weighted-average "base year" using 2012/13 and 2013/14 data. <p>Consistent with adoption of PEG's productivity growth estimate, the Commission could adopt the LCI all-industries forecast. If not, add a wedge to the LCI of 1.2% per annum to account for greater wage inflation in EDBs relative to the rest of the economy.</p>	<p>54-56</p> <p>52-61</p> <p>62-67</p>
Capital expenditure	<p>Apply a consistent cap to all EDB's 2014 AMP forecasts. Incentive schemes should not apply <i>ex post</i> and there factors behind the relatively poor performance of Unison's 2010 AMP, which do not exist in 2014.</p>	<p>74-76</p>

	<p>Ensure that EDBs who have internal contracting businesses are not disadvantaged by the approach to caps for non-network capex.</p> <p>Adjust Unison's capex data for the following issues:</p> <p>a) Change in profile of major customer-driven project;</p> <p>b) Update forecasts of disposals for correction of historical disposals, due to prior incorrect treatment;</p> <p>c) Update Unison's historical non-network capex to include contractor non-network capex, not included in earlier data.</p>	<p>79-88</p> <p>77</p> <p>78</p> <p>88</p>
Quality incentive scheme	<p>Consider Unison's preliminary concerns that proposed scheme will not deliver intent of rewarding or penalising EDBs for underlying changes in quality performance.</p>	92-94
Claw-back	<p>Compensate EDBs for equity risks associated with recovering claw-back amounts by adopting the WACC to represent the time value of money.</p> <p>Allow discretion for EDBs to recover their claw-back allowances at a time of their choosing.</p>	<p>100-102</p> <p>103</p>

2. GENERAL APPROACH

2.1 Objective and approach to setting the DPP paths

15. In this section we reiterate points made in our submissions on the Process and Issues Paper. In particular, we emphasize our submissions that the Commission must test its forecasting approaches to establish that they are the most likely of available options to deliver sufficient revenues to EDBs to cover their costs over the regulatory period. A strong message has been consistently provided to the Commission that it needs to test its forecasting approaches to ensure that they at least broadly match EDB's actual results over time.
16. The Commission's consultation papers do not indicate that there has been a systematic process used to test individual forecasts to check they deliver sensible results, and where the Commission has sought to have its proposed approach reviewed (i.e, the testing of the opex econometric forecasts), the reviewer does not seem to have been provided with sufficient data to test the effectiveness of the Commission's forecasts in reflecting actual trends in opex (even in broad terms).
17. Unison is particularly concerned about the Commission's approach to empirical evidence. For example, in the Process and Issues Paper the Commission stated that if there was a recent deterioration in productivity growth it would treat this as a temporary phenomenon. In the EI study (and the Pacific Economics Group study funded by ENA) there is a consistent finding of negative opex partial factor productivity growth and that this is a long-term trend.⁷ Without any apparent investigation as to what could be causing this or to consider the implications of this finding in the wider context of the Commission's models; EI recommends, and the Commission accepts, to completely set aside all the empirical work and adopt 0%.
18. While clearly the Commission must consider the evidence and exercise judgement, the Commission must establish compelling evidence to set aside empirical results, especially where there are distinct trends involved. There is no analysis provided supporting the Commission's preliminary views that the long-term trend in opex PFP will cease immediately, or to explain why the trend over the last four years for declining consumption per user will also cease immediately.
19. Section 53K of the Commerce Act sets out the objectives for default price-quality regulation, as requiring relatively low cost mechanisms 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.
20. Our analysis and that provided in the ENA submissions is that the Commission's models for opex and revenue growth are not delivering forecasts that will deliver EDBs with sufficient revenues to cover their costs. This will require EDBs to either cut expenditure

⁷ We note that in EI's study opex productivity peaked in 2003 and since then has declined. So the decline has not been a recent trend. We note that the EI study includes data prior to 2000, but there is clearly a structural break after 1 April 1999, when EDBs were structurally separated.

below efficient levels or apply for CPPs. Neither outcome is consistent with the scheme of Part 4.

21. When considered overall, we are very concerned that at every turn the Commission makes modelling decisions and assumptions that favour lower prices or place risks on EDBs. We note the Commission proposes to:
- a) Set aside empirical evidence of negative opex partial factor productivity growth trend;
 - b) Set aside the strong recent trend of declining residential growth and assume constant consumption per user;
 - c) Cap capex forecasts;
 - d) Adopt the 2012/13 year as the base year for opex because it is lower;
 - e) Adopt the all-industries LCI forecast which is lower than the LCI Electricity Gas Water and Wastewater forecast;
 - f) Adopt models for forecasting opex that systematically under-estimate past growth in opex;
 - g) Require EDBs to bear the risks of lower demands following a catastrophic event, but there is no allowance for this risk in the WACC or in cashflows;⁸ and
 - h) EDBs would have to pay incentive payments for exceeding their quality targets and may also be subject to investigations, despite the fact that there is, by definition, a 50% statistical probability of exceeding the target each year. No allowance is made for the costs of responding to investigations.
22. If the Commission adopts its current proposals without significant modification, most EDBs are likely to fall short of earning their WACC over the regulatory period. Given the factors listed above, EDBs may well feel discouraged from applying for a CPP.
23. In the following sections we provide our assessments of the Commission's models against historical performance and make recommendations as to how the Commission

⁸ The Commission appears to consider that the demand risk associated with catastrophic events is largely eliminated by diversification (see paragraphs 8.7 and 8.8 of the Proposed Default Price-Quality Paths Paper). The NPV=0 rule for investment is that a business case will only proceed if the expected returns exceed the WACC. Expected returns are the probability-weighted potential returns under different states, including those that occur in a catastrophe. So either the WACC (hurdle rate) used for business case modelling must be higher if catastrophic event risk is not modelled specifically, or returns must be modelled for the potential catastrophic event. Evidence from the insurance markets indicates that the risk/cost of catastrophes is not low as the Commission contends. EDBs seeking to transfer the risk into the insurance market via Business Interruption insurance, have been met with either no premium quotations or extremely high prices for the risk transfer.

should proceed to maximise the probability that EDBs will receive adequate revenues to cover their costs.

3. REAL REVENUE GROWTH FORECASTS

3.1 Commission's proposal

24. The Commission proposes that the approach adopted for the 2013 reset would be retained, with updates for more recent information and judgements.
25. The Commission's approach is to split revenues into different sources (e.g., residential, commercial/industrial) and apply different growth factors according to underlying drivers: Statistics New Zealand's population growth for residential demands, and GDP growth for industrial/commercial demand.
26. In respect of residential consumers, the Commission's preliminary assumption is that there will be no change over the next five years in energy consumption per user. From Unison's perspective it is this assumption that is critical.

3.2 Unison's submissions

27. Unison notes that of all the components of the calculation of starting prices, the real revenue growth forecasts are most critical because they convert the Building Blocks Allowable Revenues ("BBAR") to Maximum Allowable Revenue ("MAR") and starting prices. Forecasting errors in real revenue growth therefore have a significant and potentially compounding effect on EDB's ability to recover more or less than their costs over time.
28. Unison remains supportive of the general modelling approach for seeking to forecast real revenue growth, but observes that the choice of forecast inputs to the model are critical, as well as the stability of relationships between GDP and commercial/industrial growth and population growth to the rate of household formation.
29. It may be preferable to adopt the ENA's suggestion that historical trends may be more appropriate if improvements cannot be made to the current model to generate more accurate forecasts. Again, the Commission needs to consider the reasonably available modelling alternatives and select an option that is the more likely to accurately forecast EDBs actual volume forecasts. The ENA's submission demonstrates that the models have performed very poorly over the past regulatory period, and at the very least the input drivers and relationships need to be reconsidered. If the Commission cannot ultimately be satisfied that the real revenue growth forecasts are likely to be accurate within reasonable tolerances, then consideration should be given to *ex post* adjustments through some form of wash-up.
30. The net result of the Commission's model for Unison is a proposal to adjust for real revenue growth of 0.5% per annum over the 5 year regulatory period, representing a weighted average of 0.3% per annum residential revenue growth and 0.8% growth in the industrial and commercial segments.

31. Unison submits that this is likely to represent an optimistic view for Unison for the following reasons:
- a) GDP forecasts for Taupo and Rotorua are for growth of 2.33% per annum. Taupo and Rotorua are included in the Bay of Plenty GDP forecasts which seem likely to be dominated by growth in Tauranga. Taupo and Rotorua, whose growth prospects are both dominated by tourism and forestry activities are unlikely to achieve 2.33% growth. Forestry-related activity, especially unprocessed log exports do little to enhance electricity use. Unison submits that the Commission should take advice from NZIER on whether it is appropriate to apply the Bay of Plenty GDP growth forecast to Unison's Rotorua and Taupo networks. Unison's judgement is that Taupo and Rotorua are more likely to face economic conditions similar to that in Gisborne-Hawke's Bay, where GDP growth is forecast at 0.76% per annum;
 - b) The assumption of residential demand per user stabilising is unreasonable. Unison's internal long-term assumption is for a 1% per annum decline in mass-market consumption, based on long-term trends displayed in our customers' data.
32. Unison also submits that the Commission should seek from NZIER information on historical performance of its regional GDP model, to ensure that it performs adequately in predicting regional GDP and therefore is a reasonable basis for forecasting commercial and industrial load growth.
33. From Unison's perspective, the most critical assumption in the Commission's analysis is the proposal to set the change in energy use per consumer equal to 0%. The Commission states:

Change in electricity use per residential user

5.17 Electricity use per user may change over time. The trend will depend the impact of changes in consumption, eg, from increases in income, relative to the impact of improvements in energy efficiency, or substitution towards other energy sources, such as gas.

5.18 Distributors have argued that electricity use per residential user has declined in the recent past, and that the trend is therefore likely to continue. Both Unison Networks and Vector propose that the value is approximately -1.0%, while Wellington Electricity proposes a value of -2.8% for its network.⁵⁵ In addition, Powerco's view is that population growth now has less impact on electricity demand than it did in the past.⁵⁶

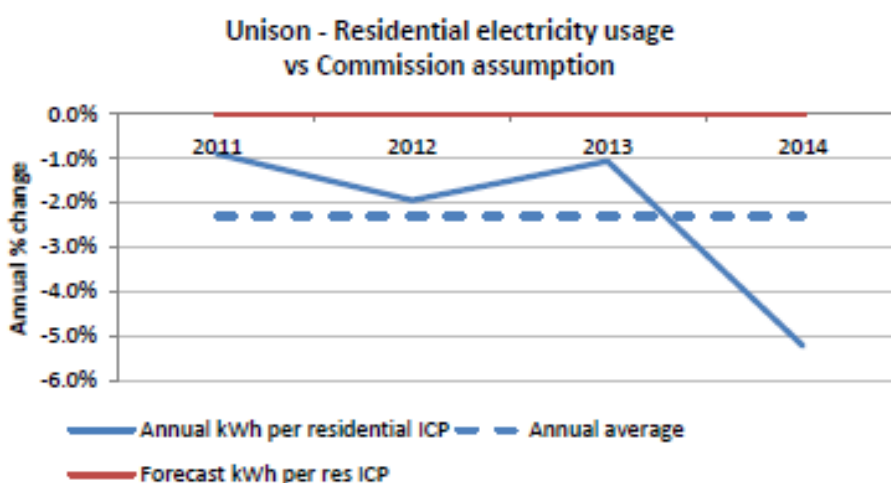
5.19 However, our current view is that electricity consumption by the average residential user is unlikely to fall over the next 5-7 years. Electricity price increases are starting to moderate, economic activity is picking up, and electric cars are becoming viable. Taken together, our expectation is that electricity use per user is more likely to remain broadly constant.

5.20 We therefore invite evidence on the likely pattern of future trends, rather than historical analysis, and in the interim we have relied on an assumption that electricity use per residential user will remain broadly constant.

34. The Commission’s request for “evidence” on likely pattern of future trends is clearly difficult to fulfil. Evidence will only materialise over time, however, historical information is still very clearly relevant to the Commission’s analysis. Unison notes the following:

a) Analysis of Unison’s residential demand data compared with the Commission’s 2013 reset assumption shows the following:

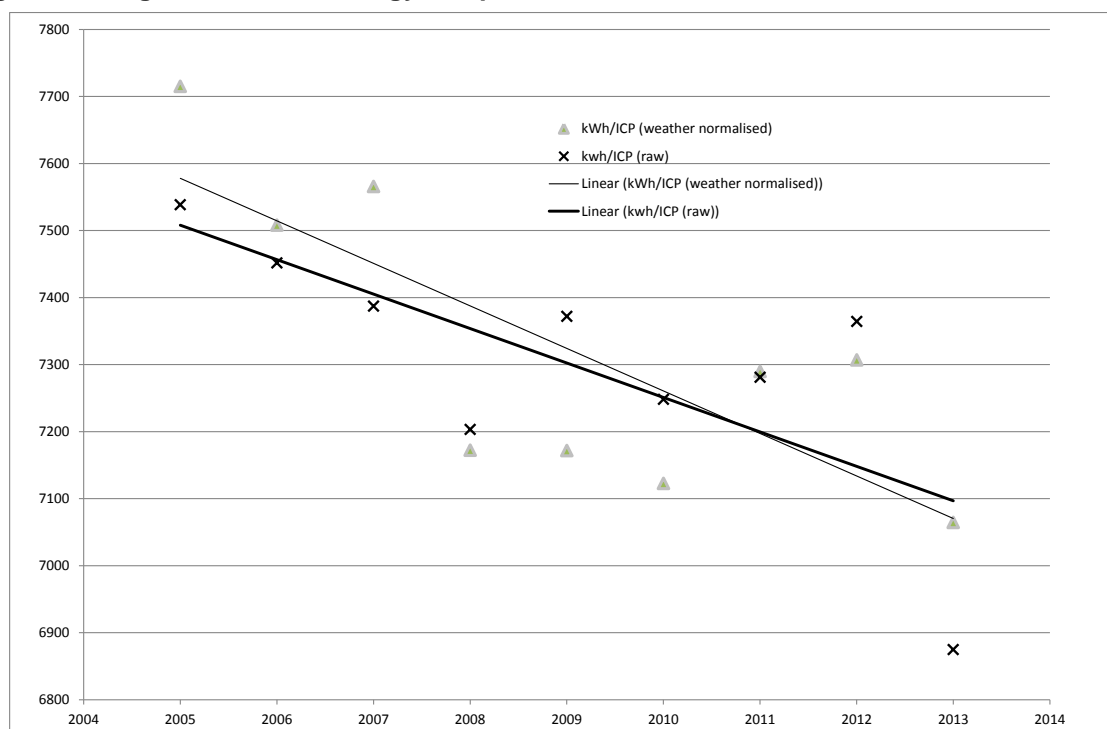
Figure 2: Comparison of Commerce Commission 2013 Reset Assumption with Unison Actuals



Source: PwC, (Unison and Commerce Commission data)

b) Unison has also undertaken longer term analysis of residential demand per user, normalised for weather effects. Our data indicates that the trend decline in residential volumes has been a much longer term phenomenon on Unison’s networks than in national data, at around 1% decline per annum:

Figure 3: Long term trend in energy use per residential consumer



Source: Unison consumption data

35. Factors relevant to the Commission’s choice of energy use per ICP assumption are also as follows:
- Over the past decade, real domestic electricity prices have increased across New Zealand by 32% (69%) in nominal terms⁹. The Commission acknowledges that electricity price increases will continue (albeit at a more moderate pace);
 - The Commission should not generalise that just because “economic activity is picking up” this would apply everywhere and lead to higher disposable incomes. Hawke’s Bay, Rotorua and Taupo all sit below national averages in terms of incomes and the Commission itself (in relying on NZIER’s forecasts) is forecasting very low rates of GDP growth in Hawke’s Bay (and we would strongly argue also in the Taupo and Rotorua areas which are included in the Bay of Plenty forecast);
 - In any case, offsetting any possible economic growth impacts is the fact that rising mortgage interest rates will erode disposable incomes;
 - There is strong evidence of changing consumer attitudes and supply-side substitutes displacing electricity use. The expert report from Sapere for the ENA concludes that there remains significant remaining potential for energy efficiency

⁹ MBIE (2014) *Energy in New Zealand* Figure 10,

- improvements given long asset replacement cycles and improved efficiency of modern appliances;¹⁰
- e) UMR Research for the Electricity Authority shows a strong consumer interest in taking action to reduce consumption;¹¹
 - f) There is a compounding problem of low user fixed charge regulations, which make marginal signals to conserve ever-stronger because the regulated fixed charge is not permitted to increase in nominal terms, thereby concentrating retail price increases on the variable component. There is political reluctance to remove the regulations;
 - g) Unison notes that while EVs are improving in price, and may create additional future demands, the impact on volumes, revenues and costs needs to be carefully understood. From a network company point of view, the ideal scenario is that EVs will be charged over-night, so that there is not increased requirements for peak network capacity. In order to encourage night charging, Unison's tariff structure sets a "NITE" rate of 1.3c/kWh against a day-time tariff of 12.29 c/kWh, so even if there were rapid update of EVs (which is not predicted by anyone over the next five years), the revenue impacts may well be significantly muted. Alternatively, if consumers cannot be persuaded to charge EVs off-peak, then the impact on network capacity requirements could be significant if charging coincides with evening peaks associated with people returning home from work in an evening. The Commission also needs to be careful to recognise that uptake is likely to be un-even across New Zealand. Lower income regions are not likely to lead the way in EV uptake.
 - h) We are unsure of the source of the Commission's statement that EVs are becoming viable, but we note that MBIE states: "Electric vehicles (including plug-in hybrid vehicles) are another area of uncertainty for future electricity demand. At the moment, electric vehicles are not economic when compared with similar petrol or diesel vehicles. If they become economic over the next decade, it will take several decades for electric vehicles to have any significant impact on total electricity energy demand due to slow turnover in the vehicle fleet."¹²
 - i) MBIE analysis also shows that "Electricity demand in New Zealand fell 0.6% between 2012 and 2013 (see Table 1). This was driven by a decrease in the level of residential demand for the third year in a row, combined with flat total industrial demand."¹³ ... "As New Zealand's population has continued to grow over the last three years, New Zealand's residential electricity use per capita has fallen.

¹⁰ Sapere (2014 *Trends in Residential Electricity Consumption*)

¹¹ UMR Research (2014) *Report: Charge Transparency* Section Three.

¹² MBIE (2013) *Energy Outlook: Electricity Insight*, p7

¹³ MBIE (2014) *Energy In New Zealand*, p 55

Technological energy efficiency improvements and changes in household behaviour could be behind this fall.”¹⁴

j) Unison also notes Transpower’s statement when announcing its 2014 annual result:

“Electricity demand was “relatively flat” Transpower said, despite a strongly growing economy, and future load growth was “uncertain”.

“As well consumers are using less power as a result of factors such as home insulation products”¹⁵

36. Unison submits that the Commission should not simply take existing volume forecasting models (such as the EA’s or Transpower’s) and their results without checking to see whether the models have been reviewed for structural breaks in the past few years. If such models are simply based on time-series analysis based on long data-series, then they will generally fail to pick turning points and will likely have over-predicted volumes in the last few years. We note that MBIE’s most recent New Zealand Energy Outlook, which included data up to 2012 predicted total electricity volume growth of 2.6% for 2013, compared to the 0.6% actual decline in volumes.

37. In response to a request from ENA for the specific evidence considered by the Commission in coming to its preliminary conclusion that energy use per consumer would be static, the Commission referred stakeholders to the Energy Outlook section of MBIE’s website and Transpower’s forecasting section. We have been unable to establish from those websites that the recent trend decline in energy use per consumer has been factored into their analysis. Understandably, Transpower’s modelling takes a very conservative view because the economic costs and risks of a short-fall in grid capacity are far greater than too much capacity. In any event, the drivers behind peak demand (i.e., how people behave on the coldest night of the year) and the sources of generation to meet that peak demand are not the same as drivers of total energy through-put on which EDBs are reliant. The total quantum of energy through-put is of much less relevance to Transpower in its modelling approach.

38. Ultimately, EDBs can do little to influence the amount of consumption on our networks and without any kind of wash-up mechanism for volume forecast errors are forced to take the risk that the Commission’s proposed energy use per consumer assumption is wrong. Given the materiality of the assumption because of its compounding effect over five years, Unison submits that the best option is to:

a) Adopt a 1% per annum decline in energy use per consumer, which is still an optimistic view, given the recent the recent declines have been at least 1.7% per annum; and

¹⁴ MBIE (2014) p 56. MBIE statistics showed residential growth fell 1.7% in 2013, (following declines of 2.0% and 3.0% in the previous years.) Per user declines would be more substantial given population also increased over that time.

¹⁵ <http://www.stuff.co.nz/business/industries/10385446/Flat-demand-for-power-generates-uncertainty>

- b) Introduce a wash-up mechanism under the price path that then ensures consumers and EDBs are, in NPV terms, indifferent to the path of volume changes.
39. Overall, Unison submits that the historical trends, information on incomes, prices, consumer attitudes all point to a strong likelihood of continuing declines in residential demands. Volume forecasts have a substantial and compounding impact on EDB's revenues, so it is critical that the assumption is accurate and based on research and analysis.
40. Unison also submits that, given that the Commission has not produced evidence to support its preliminary judgement on energy use per consumer, if the Commission is to consider any additional information not before stakeholders, it must release this information for consultation.

4. OPEX AND CAPEX GROWTH FORECASTS

4.1 Commission's opex proposals

41. The Commission's opex proposals are as follows:
- a) To take 2013 as the base year for estimating opex, because of concerns that 2014 is not a representative year;
 - b) Escalate these forecasts based on:
 - i. Forecasts of input price inflation using NZIER's all-industries forecasts of LCI and PPI inflation;
 - ii. An assumption that the trend decline in measured opex partial factor productivity will stop, and that in future productivity will be constant;
 - iii. Econometric models of network and non-network opex that use scale drivers to establish rates of change;
 - iv. No adjustments for any specific issues that would not be reflected in past trends; and
 - v. To introduce a mechanism to carry-over differences between EDB's actual expenditure and the Commission's forecasts from one regulatory period to the next to create incentives for EDBs to be efficient in all years of the regulatory period.

4.2 Unison's submissions on opex proposals

Overall approach

42. As stated previously, 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.
43. Despite our support for the general framework, there is clear evidence that the specific input assumptions and models used to establish escalations of base opex have failed to produce (even at a broad level) forecasts that match EDB's actual opex.
44. Unison will make submissions on the proposed incentive scheme with its next set of submissions. Our preliminary concern is that it will simply carry over forecast error from this regulatory period to the next.

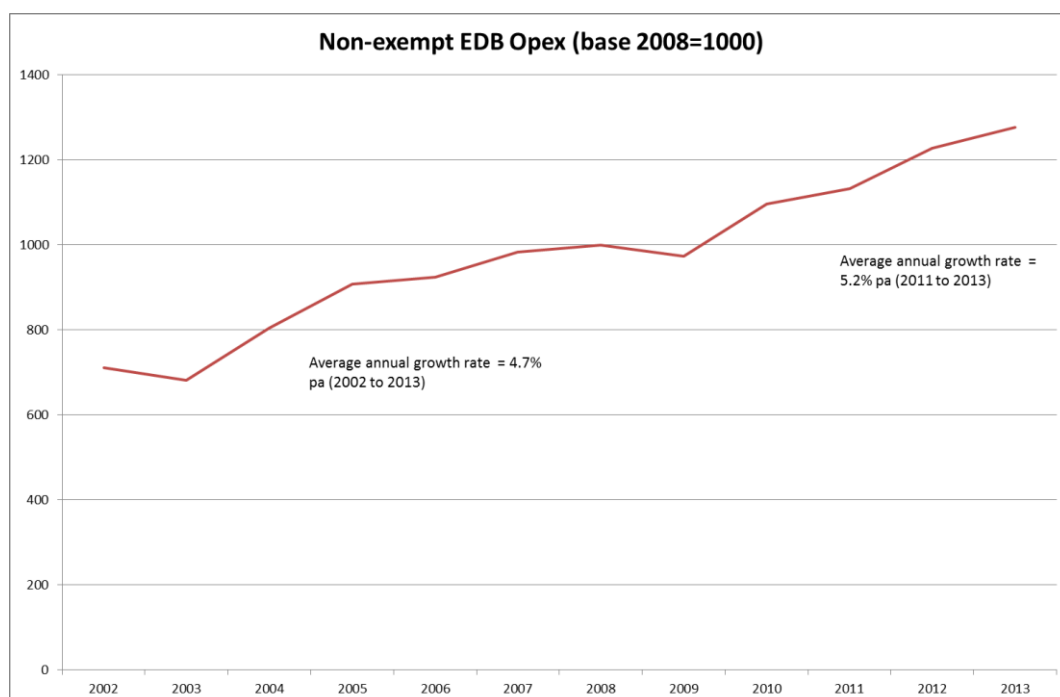
Escalation models for network and non-network opex

45. In Unison's submission on the Process and Issues Paper we made the following points:

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.

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.

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.

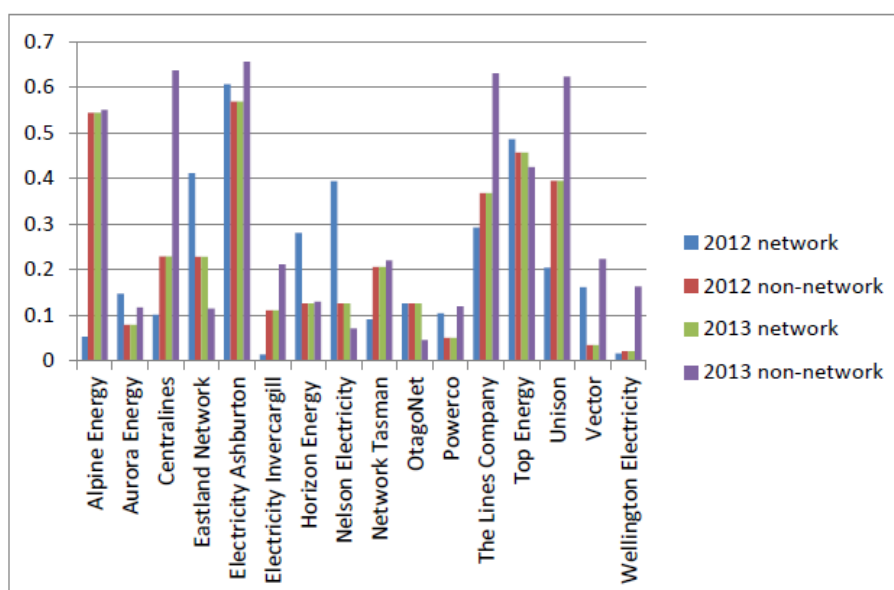


At the 2013 reset, the Commission rejected use of time series methods for forecasting operating expenditure because it may penalise some businesses who had been effective at controlling expenditure and reward those that had not. On this basis the Commission justified use of the econometric approach using trend drivers to forecast future changes in opex. The chosen model had good explanatory power in explaining the substantial variation in levels of opex across EDBs, but it was not clear that the models were tested for time series performance.

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.”

46. From the consultation paper, it is not evident that the Commission has undertaken empirical validation or testing of the models’ results. The econometric review by Jeff Borland focusses on whether the models are good statistical/econometric models, not whether they produce forecasts that are likely to produce expenditure allowances that reasonably meet EDB’s efficient expenditure needs.
47. The following chart reproduced from Jeff Borland’s econometric review shows the absolute level of difference between the forecast natural log (opex) and actual natural log (opex) for network and non-network opex:

Figure 4: Absolute forecast error for network and non-network opex by supplier, 2012 and 2013

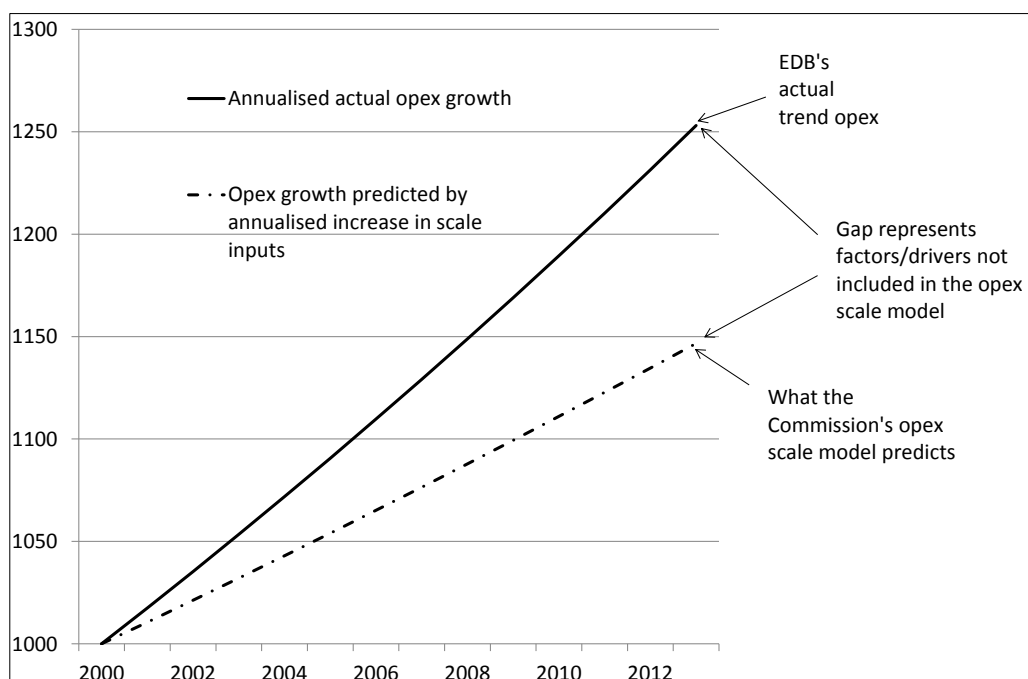


Source: Jeff Borland, p12

48. Presenting the absolute errors in natural logs, camouflages the substantial unexplained variances in opex. For example, for Unison's network opex in 2013, the forecast error reported in the chart appears to be $\ln(0.4)$. Given network opex of \$7111 in 2013, the model error in actual dollar terms is 49% different from forecast, indicating that there is significant unexplained variation in opex in the econometric model. What this means is that the scale drivers by themselves are performing poorly in explaining variations between EDBs, let alone capturing variances caused by other factors that may move over time.
49. To further test the performance of the opex forecasting models, (for convenience) we have combined information from EI's productivity study with the Commission's econometric models. In EI's study annualised opex growth was 1.82% per annum over the period 2000 to 2013.¹⁶ Over the same period annualised ICP growth and growth in system length was 1.3% and 0.8% per annum respectively.
50. The Commission's opex escalation models use the following elasticities:
- | | |
|---|-------|
| Elasticity of network opex to network length | 0.451 |
| Elasticity of network opex to number of connections | 0.490 |
| Elasticity of non-network opex to number of connections | 0.821 |
51. By inserting the annualised ICP and system length growth figures into the opex model, we measure that the opex scale models under-predict actual opex growth by 45%: actual opex growth was 26.4% and forecast growth was 14.6%. This difference is shown in the following figure:

¹⁶ We note that in the PEG study higher rates of opex growth were measured. In part, this is because EI does not use the all-industries LCI, which is used in the Commission's forecasting approach.

Figure 5: Gap between (annualised) opex predicted by Commission's scale adjustment model and EDB's actual (annualised)¹⁷ opex 2000 to 2013¹⁸



52. What the chart demonstrates is that changes in scale drivers account only account for a proportion of the actual opex growth over the period 2000 to 2013 (based on EI data and results). The results would show an even worse forecasting performance if the PEG methodology were used, or EI had deflated opex using the Commission's preferred all-industries deflator.
53. This analysis demonstrates that there are substantial un-modelled factors which have driven EDB's opex higher, accounting for 45% of the total growth in industry opex over the period. Absent any correction for these substantial un-modelled factors, the Commission's proposal to set opex partial productivity growth equal to 0% and only provide for any real opex escalation as a result of increases in scale would result in a systematic under-prediction of EDBs actual opex requirements. Unison submits it would be manifestly unreasonable for the Commission to adopt a modelling approach that explains less than 56% of the historical change in opex over time.
54. Unison therefore strongly supports the ENA's submission that the Commission should adopt a -2% per annum partial productivity growth factor in setting opex allowances, based on PEG's productivity study. PEG's approach is internally consistent with the Commission's approach to scale variables that are used to escalate base-year opex and uses the same price deflator (all industries LCI) as the Commission's model. EI's approach does not meet these key criteria.

¹⁷ For convenience, we have used the annual average change in scale variables and opex to show the results. The same end-point would be reached if we used the actual year on year variances.

¹⁸ Source data is from EI's Productivity Study and Commerce Commission network and non-network scale elasticities.

55. It is important that the Commission recognise that in adopting a -2% opex partial factor productivity assumption, this is not suggesting that EDBs are becoming inefficient over time: it simply represents the fact that there are other un-modelled explanatory factors not captured by the chosen scale variables that are driving EDBs to expend higher amounts on opex than there is growth in the chosen outputs.¹⁹
56. Put another way, unless the Commission has compelling evidence that there is to be a significant shift in the operating environment for EDBs, such that the only drivers of EDBs' expenditure requirements are the need to service additional customers and new lines, it would be unreasonable to set aside the empirical evidence from the productivity studies to adopt the Commission's preliminary assumption of 0% for opex productivity growth.

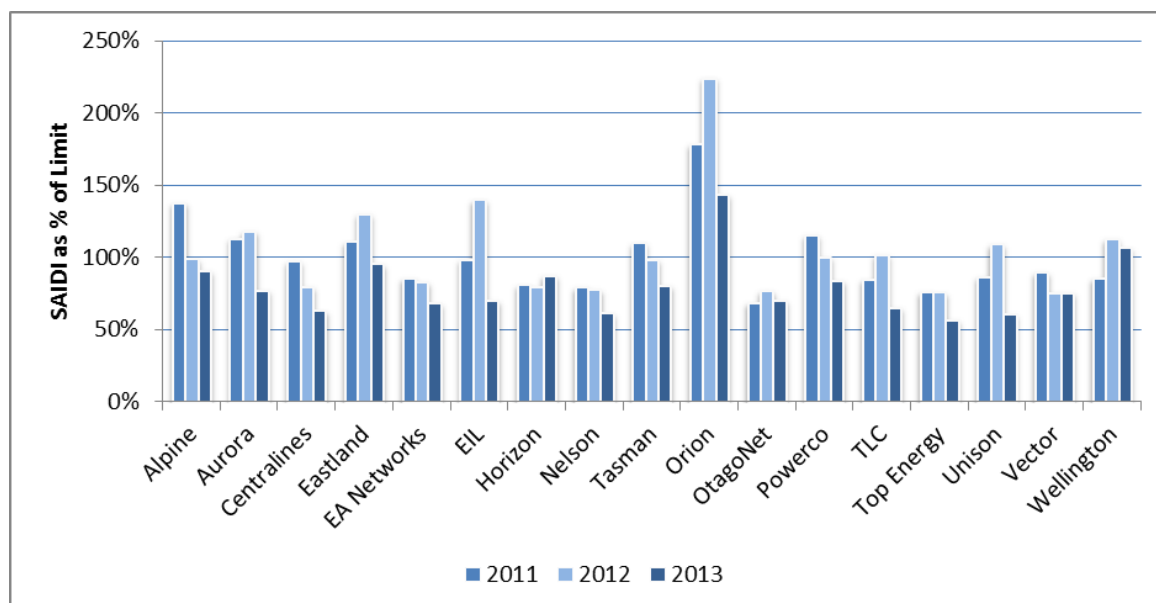
Base-line operating expenditure

57. The Commission proposes to adopt 2012/13 data as the base year for escalating opex. Unison submits that this is not a reasonable approach. In Unison's previous submission on the Process and Issues Paper we alerted the Commission to the fact that 2012/13 was an extremely benign year with the majority of EDBs experiencing very low faults and therefore spending much lower amounts on reactive maintenance activities. Accordingly, it should have been of little surprise to the Commission that 2014 AMP forecasts would show for some companies a material uplift in expenditure, because the base year was abnormally low. We previously stated:

"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 2012,²⁰

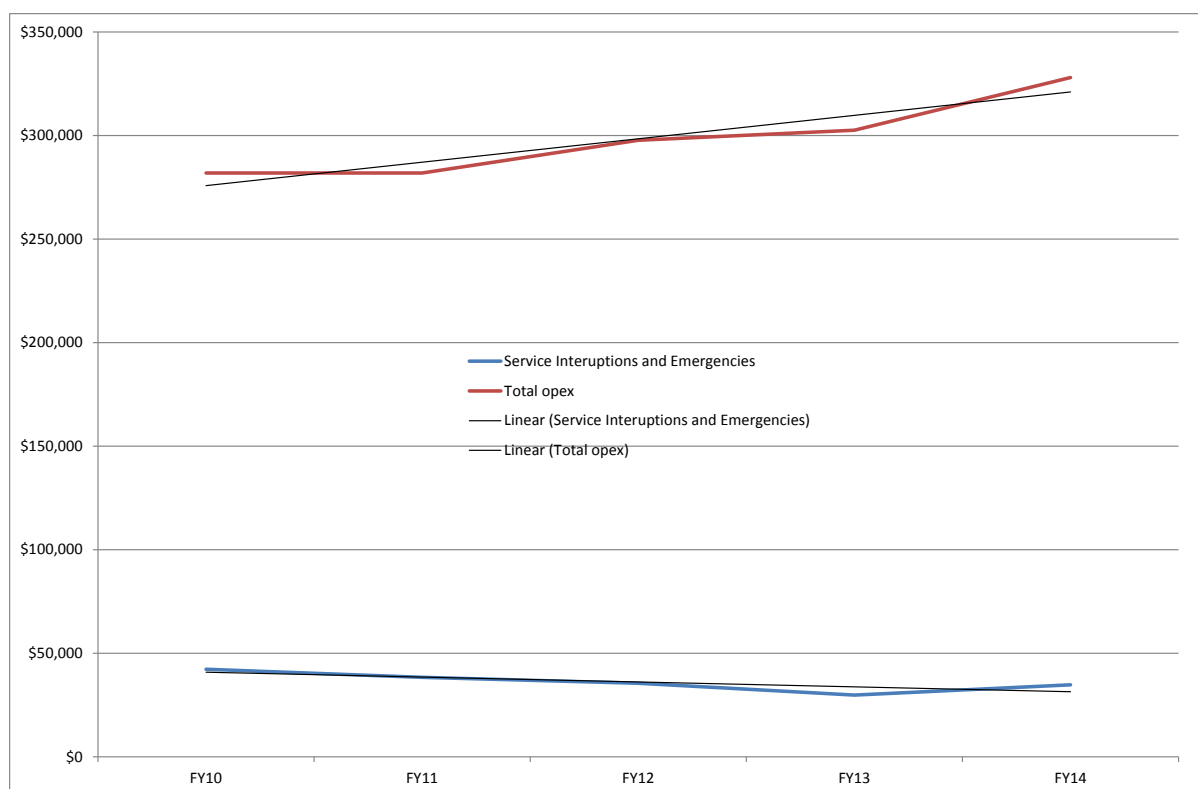
¹⁹ A good example of such a factor is the increasing prevalence of cycle lanes in urban areas. Complex traffic management arrangements must be put in place and monitored to ensure that cyclists are not diverted into live traffic lanes, which can add lengthy delays to what would previously have been a very short job. This is but one example, and there are multiplicities of factors (e.g., regulatory, health and safety, aging assets) that drive higher operating expenditures, but are not readily captured in measures capable of being forecast.

²⁰ Source: PwC based on EDB compliance statements.



58. From the information disclosure data, it is evident that 2013 is the anomaly year, with 12 out of 16 EDBs experiencing declines in expenditure on service interruptions and emergencies as a result of the benign weather conditions that prevailed over much of the country. Unison itself had a \$1.4 million (36%) decline in service interruption and emergency opex in that year compared with 2011/12. It would therefore be unreasonable to place sole or heavy reliance on unadjusted 2013 data to set the opex base line.
59. In respect of the 2013/14 year, Unison submits that the Commission’s concerns about EDBs seeking to artificially inflate expenditure are not borne out by an examination of the trends in opex. The following chart, based on data PwC has collected from EDBs in advance of their 2014 disclosures, confirms that the dip in opex in 2012/13 results from the decline in expenditure on Service Interruptions and Emergencies and that the increase in expenditure in 2013/2014 is not out-of-line with the trend growth in opex.

Figure 6: Trends in Total Operating and Service interruptions and Emergencies Opex



60. In respect of Unison's 2013/14 opex figures we note the following:

- a) As the Commission may be aware from the Asset Management Plan, Unison is deploying a smart grid in order to achieve longer-term savings in asset costs resulting from improved asset utilisation and optimising asset replacement. This approach is driving increased operating costs. In 2013/14 and continuing into 2014/15 significant costs are being incurred to install a new Advanced Distribution Management System, which will lead to more sophisticated control of Unison's networks. The next phase of development is the development of a new Asset Management System in order to align with the International Standard for best practice in asset management. Costs associated with these kinds of projects, which involve specialist engineering and IT knowledge were not in existence in 2012/13. Accordingly, if the Commission were to use 2012/13 as the base-line for expenditure then Unison would not be able to recover the costs of these activities; and
- b) Unison's maintenance expenditures increased by \$826k as weather conditions were less benign than in 2012/13. Nevertheless, Unison still experienced better than average environmental conditions in 2013/14, reflected in being 15% below average 2005-2009 SAIDI and 29% below the corresponding average SAIFI.²¹ So even in recommending that 2013/14 data be averaged with 2012/13 data there would still be a penalty (albeit moderated) associated with relatively good weather conditions in 2013/14 compared to average conditions.

²¹ Note, these percentages are calculated against the average not the (higher) SAIDI and SAIFI limits.

61. In summary, Unison endorses the ENA’s recommendations that the Commission should include 2013/14 data in the calculation of the base year. Specifically Unison recommends:
- a) Normalise 2012/13 data for benign weather conditions in 2012/13; and
 - b) Calculate a weighted-average “base year” using 2012/13 and 2013/14 data.

Input price inflation

62. The Commission proposes to use a weighted average of all-industries LCI and PPI inflation to escalate opex forecasts. The Commission’s proposals are set out in the following table:

Table 1: Commerce Commission (NZIER) Forecasts of LCI and PPI inflation

	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
LCI (all industries) growth rate	2.2%	2.9%	2.5%	1.5%	1.8%	1.8%
PPI (Inputs - all industries) growth rate	2.6%	2.8%	3.2%	3.4%	2.0%	2.0%

63. The importance of these forecasts depends on whether the Commission adopts the Unison and the ENA’s submission that it should adopt PEG’s estimate of opex partial productivity growth of -2% per annum. This is because, to the extent that there is a systematic wedge between all-industries’ measures of input price inflation and actual input price inflation, this is captured in the estimate of opex productivity growth, which in PEG’s analysis is internally consistent with the Commission’s overall forecasting model and its use of the all industries LCI and PPI.
64. If the Commission rejects this submission then the input price inflation forecasts become critical. [

65.

.] Unison Confidential Information

66. Unison's recommendation therefore is that:
- a) If the Commission adopts PEG's -2% assumption for opex partial productivity growth then it is acceptable for the Commission to adopt the all-industries LCI and PPI forecasts, because that would provide an internally consistent forecasting approach;
 - b) If not, the Commission should add a wedge to the all-industries LCI measure reflecting the different drivers between the lines sector and the rest of the economy. [] **UCI** a 1.2% per annum adjustment would be appropriate, [] **JUCI**.
67. In respect of materials price inflation, we remain concerned that the all-industries PPI is simply an arbitrary index to apply to that component of opex. Nevertheless, we have not yet been able to identify a superior forecasting basis. In our submission on the DPP Process and Issues Paper we submitted that the Commission should consider use of materials price escalators used in the Orion CPP determination and Transpower's IPP proposal. At the very least they have the advantage of relating directly to the sector, whereas there is no *a priori* reason to believe the all-industries PPI inflation would be a good proxy for changes in EDB's materials input prices.

4.3 Commission's capex forecasting proposals

68. Capital expenditure forecasts are derived for each EDB using the supplier's own forecasts (expressed in real terms), which are subject to caps which limit the extent to which future capex is able to increase relative to historical capex. Input price inflation is also forecast in order to generate capex forecasts in nominal terms.
69. Historical data is used to determine whether supplier's forecast capex is capped. Caps are applied where average annual forecast capex exceeds average annual historical capex by a margin. Caps are also influenced by variance between historical capex and 2010 forecasts of capex, and the relative proportions of non-network and network capex.
70. The Commission proposes to cap Unison's forecast:
- a) network expenditure at 110% to penalise Unison for the extent of variance between actual and forecast capital expenditure in Unison's 2010 AMP. Other EDBs who had more accurate forecasts are permitted a 120% increase above forecast levels; and

- b) non-network capex at 121% because the proportion of non-network capex in Unison's AMP forecast exceeds 5% of network capex. Other EDBs are to be permitted to recover up to 200% of their non-network capex.

71. The Commission's capex forecasting approach is to be complemented by efficiency incentives, which Unison will comment on separately according to the Commission's consultation timetable.

4.4 Unison's submissions on capex forecasting proposals

Capex quantity growth

72. Unison supports using supplier's own forecasts of capex as the basis for determining the DPP forecast capex allowance for this reset. We consider this is consistent with the low cost intent of the DPP, and has the advantage of reflecting data which is relevant to each business, and is relatively easy to implement.²²

73. Unison also understands the basis for setting caps above historical expenditure levels, which reflect the fact that EDBs have been increasing their levels of expenditure, but are established at thresholds where EDBs that need to spend beyond the cap would need to apply for a CPP. Unison acknowledges that it was the intent of DPP/ CPP regulation that companies needing step changes in expenditure would need to apply for a CPP, but this should be a rarity given the cap on the number of CPP applications that can be processed. Unison indicated in its previous submission that a 20% cap may strike an appropriate balance.

74. Unison's chief concern is that the Commission is proposing to apply a 10% cap to penalise those EDBs whose 2010 AMP forecasts were not accurate. If Unison spends the amounts forecast in its 2014 AMP then it will either need to apply for a CPP or accept a below WACC return. If Unison constrains its expenditure to meet the cap, then it will face the jeopardy of facing a further penalty in future for failing to deliver on the 2014 AMP.

75. In relation to the proposed cap, Unison submits the following:

- a) The Commission's proposed penalty is being retrospectively applied. As a point of good regulatory practice incentive schemes should not be imposed retrospectively. No opportunity was provided for Unison to amend its 2010 AMP when the Commission chose to use it for the 2013 reset, nor was there any opportunity for Unison to seek additional third-party contractors to deliver a higher quantum of capex to avoid the penalty for forecast inaccuracy. This is manifestly unfair;

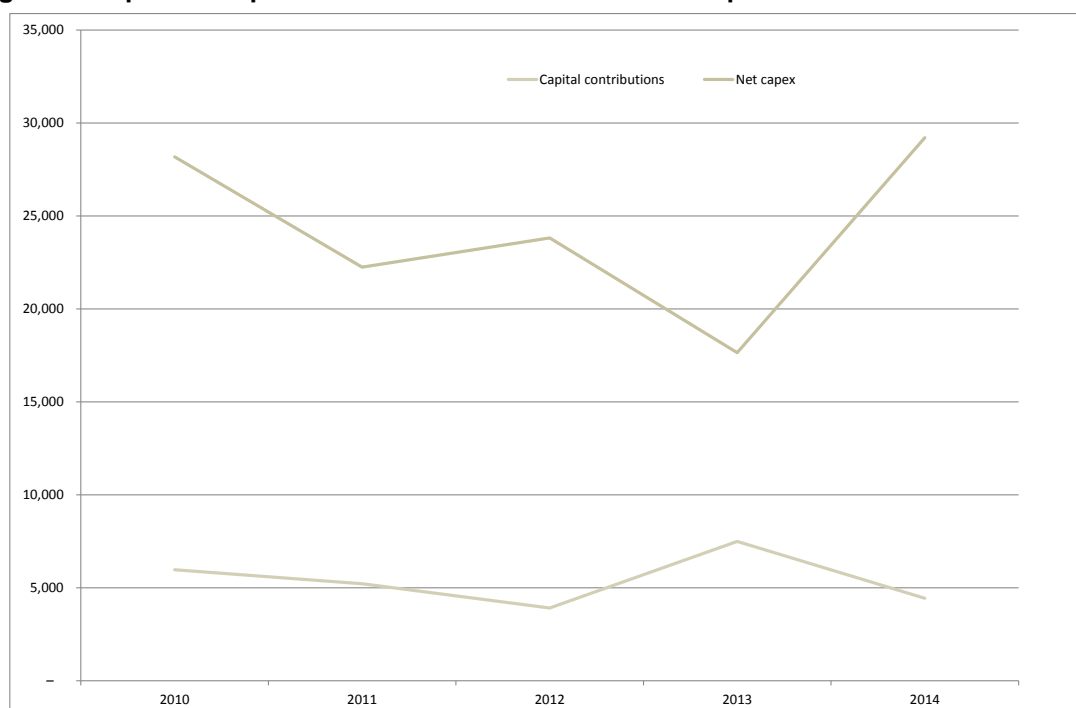
²² Despite Unison's current support, over the longer-term this approach is problematic, because the whole intent of Unison's smart grid programme is to avoid and defer capex with this benefit emerging over lengthy periods. But by using AMP forecasts of what we intend to spend as a result of smart grid innovation, the benefits of innovation will pass directly to consumers and Unison will be prevented from sharing in the benefits of efficiency gains. This is contrary to the intent of Part 4. In order to be motivated to innovate, EDBs need some share of the difference between conventional asset management expenditure programmes and smart grids.

- b) Unison's 2010 AMP was not prepared under the IMs which changed the rules in respect of treatment of related party transactions and capital contributions. Accordingly, the Commission is comparing commissioned asset values and AMP forecasts that were constructed on entirely different bases. Unison now values commissioned assets on a consolidated basis, which means that costs that were previously capitalised (such as a proportion of overhead costs that were recovered in margins on capital works) must now be expensed;
- c) Unison's 2010 AMP represented the first year of adopting a smart grid philosophy and was the first communication of our intentions to stakeholders of the approach, which was a requirement of the AMP. While Unison used best endeavours to forecast its plans to roll-out smart technologies such as sensors, smart devices, communications and IT platforms, given we were the first in New Zealand to adopt such a wholesale approach, inevitably there would be a greater degree of uncertainty associated with the new approach. In addition, it proved substantially more difficult than anticipated to obtain the technical resources to install the new hardware. Unison is now four years into its five year implementation plan and now has much greater understanding of what is required. Capping future capex for forecast inaccuracy in such circumstances penalises Unison for seeking to be innovative and fails to recognise that Unison, as a business, is now in a fundamentally different position in preparing its AMP forecasts. In short, Unison's 2010 AMP forecast accuracy is not a reasonable indicator of future forecast accuracy;
- d) Unison has put significant effort into improving integration of its network planning function and UCSL, its delivery arm. A specific initiative "Service Delivery Optimisation" has been completed to better ensure that development plans can actually be delivered by specifying resource availability at a highly granular level. In 2013/14 UCSL completed the agreed programme of capital works in full, resulting in \$31.8 million of network capex against the prior year of \$25.1 million²³;
- e) The Commission's proposal would penalise Unison for being responsive to consumer demands. In particular, in 2013 Unison undertook substantial capex to provide upgraded capacity to an industrial park in Napier. Unison sought a capital contribution close to the value of the total works on the basis that it did not consider it appropriate that the rest of Unison's consumers should take the stranding risk of customers failing to materialise. Unison diverted substantial resources to meet the new customer's demand resulting in reduced capex on other projects. Netting the capital contribution off capex in 2013 makes it appear that Unison had a substantial reduction in capex, and penalises Unison because it creates an artificially low historical average to compare future capex against. Unison therefore submits that the Commission should be comparing forecast and actual gross capex, so that EDBs are not penalised for seeking contributions to reduce stranding risks. If the Commission does not follow this approach it will discourage EDBs from seeking capital contributions from major customer works for fear that it result in capped capex in future. The effect of the significant capital contribution in 2013 is highlighted in the following chart:

²³

Sourced from Unison's 2012/13 and 2013/14 Information Disclosures.

Figure 7: Impact of capital contributions on Unison's net capex



Source data: Commerce Commission "Input to Model 4" updated with Unison's 2014 disclosure data

- f) The proposed approach to identifying the differential caps to EDBs amounts to a retrospectively imposed penalty scheme that has the result of clawing-back profits by suppressing future capex allowances, which is prohibited under section 53P(4).²⁴
76. In summary, in respect of the proposed differential cap on network capex, Unison submits that:
- It supports use of 2014 AMP forecasts to under-pin capex allowances;
 - We acknowledge that use of a cap on increases above historical levels of expenditure is a reasonable tool for the purposes of the DPP;
 - The calculation of historical levels of capex should be on the basis of gross capex to avoid distortions that arise when EDBs obtain higher than normal levels of capital contributions, or there should be some process to normalise for situations where this has occurred (as it clearly did for Unison in 2013);
 - The Commission should not penalise Unison for past forecast inaccuracy of its 2010 AMP for the reasons stated above. It is contrary to good regulatory practice to impose a penalty scheme *ex post* and in any event there are significantly different circumstances

²⁴ We would also note that under the Commission's price path Unison has not, and will not earn above WACC for the regulatory period. Disclosed profits for 2013/14 are 5.83% against the WACC of 8.77%. While Unison may have benefitted slightly from the capex forecast inaccuracy, Unison has suffered worse effects from opex and real revenue growth forecast inaccuracy.

associated with Unison’s preparation of its 2014, that renders the performance of the 2010 AMP an irrelevant predictor of likely future forecasting performance.

77. In terms of the specific forecasts that the Commission proposes to use, Unison notes that the aspect of forecasting that is most difficult to ensure accuracy is associated with customer projects. Unison would like to request the Commission make an adjustment to Unison’s capex forecast for changes to a large customer driven project near Taupo. Note there is no net change to Unison’s overall capex plan, but timing has changed between 2015 and outer-years as a result of negotiations between the land-owner and the developer delaying the timeframes for Unison to commence work, as well as a new set of requirements for Unison to build to. The following table sets out the change in AMP forecasts that result and Unison will have these figures certified by its Directors with the forthcoming section 53ZD disclosures.

[Table 2: Requested change to capex/commissioned asset values (\$M)]

	Original AMP		Revised		Change	
	Capex	Commiss- ioned	Capex	Commiss- ioned	Capex	Commiss- ioned
2014/15						
2015/16						
2016/17						
2017/18						
2018/19						
Total						

] UCI

78. In respect of the calculation of asset disposals, Unison’s auditors incorrectly required Unison not to dispose of assets that had been sold for scrap as a result of a mis-interpretation of the IMs, which was cleared up at the Commission’s ID workshop in March 2014. As a result, Unison’s prior year disposals have been understated and this has been corrected in the 2013/14 disclosures with a reduction in the RAB to remove the disposed assets. In the Commission’s draft determination a sum of only \$305k per annum is used as the basis for forecasting disposals. Based on the corrected interpretation Unison’s disposals average \$1.340 million per annum from 2010 to 2014. The Commission’s model needs to be updated for a higher level of disposals and losses on disposal of assets, based on this corrected

average. Unison intends to provide information to show more accurately the actual timing of disposals with its response to the section 53ZD Notice.

Non-network capex

79. Because Unison's non-network capex exceeds 5% of network capex, the Commission has applied a 121% cap against historical non-network capex. For EDBs with low levels of non-network capex a 200% cap applies.
80. Unison has relatively high rates of non-network capex because it undertakes contracting works in-house and so has additional capital costs associated with maintaining a vehicle fleet, depots, equipment etc. As a point of principle, it is important that the Commission does not discriminate between EDBs with in-house contractors, versus those that contract with third parties. Unison's analysis suggests that the Commission's approach has a disproportionate adverse effect on those EDBs that have in-house contractors.
81. To see this effect consider the impacts of a 20% cap on an EDB that provides services in-house (scenario A), relative to an EDB that purchases services from third parties (scenario B), where both parties are experiencing a cap on expenditure.
82. In scenario A the EDB needs to replace \$1 million of vehicles at the start of the regulatory period with asset lives of 5 years. Assuming a 5% cash return requirement and depreciation of 20% per annum, the cap would allow the EDB to recover the following profile of revenues against actual costs:

Table 3: Scenario A – contracting services provided in-house

	1	2	3	4	5	6
RAB value	1,000,000	800,000	600,000	400,000	200,000	-
Costs (ROI + depn)	250,000	240,000	230,000	220,000	210,000	-
Allowed return (20% cap)	50,000	48,000	46,000	44,000	42,000	-
Loss to EDB as result of cap	200,000	192,000	184,000	176,000	168,000	
NPV	-\$800,000.00					

83. At the end of five years the EDB has no RAB asset because the motor vehicles have fully depreciated, and the cap of 20% means that it has only been able to recover \$200,000 of the \$1 million of expenditure.
84. In scenario B the EDB's contractor purchases the same \$1 million of assets and recovers through charges on capital works the exact same profile of costs from the EDB as in scenario A. Because the recovery of the contractor's motor vehicle costs are capitalised into the value of RAB assets, which are depreciated over much longer timeframes (in this example 50 years), the EDB is much less disadvantaged by the operation of the 20% cap.

Table 4: Scenario B – contracting services by a third party

	1	2	3	4	5	6
RAB value	250,000	485,000	705,200	910,800	1,102,000	1,079,960
Costs (ROI + depn)	17,500	33,950	49,364	63,756	77,140	75,597
Allowed return (20% cap)	3,500	6,790	9,873	12,751	15,428	15,119
Loss to EDB as result of cap	14,000	27,160	39,491	51,005	61,712	60,478
NPV	-\$162,396.98					

85. In scenario B, the loss to the EDB arising from the 20% cap is far less (only \$162,392) over the period, but more importantly it still has a RAB asset at the end of the regulatory period of over \$1 million.
86. The Commission's approach to reducing the cap to 20% on non-network capex for those EDBs with non-network capex above 5% of RAB therefore discriminates against EDBs that chose to provide contracting services in-house and have proportionately higher levels of non-network capex to sustain vehicle fleets, equipment etc, which depreciate over much shorter time horizons.
87. Unison submits that, at the very least, the application of any cap should not apply to the capital basis for calculating depreciation charges and that other adjustments need to be considered to ensure that EDBs with in-house contracting businesses are not discriminated against or would be incentivised to pursue inefficient options.²⁵

²⁵ For example, an EDB with an in-house contracting business could mitigate the impact by leasing equipment. Because of the thin market in New Zealand for leasing of specialist equipment this would increase the long-term costs to consumers.

88. Unison also notes that its historically disclosed non-network opex only includes in-house contracting capex from 2012/13. Hence, Unison's historical average non-network capex requirements are not representative of the true historical average. We intend to provide the Commission with an historical data series of non-network capex incurred by UCSL certified by Directors when we provide the response to the section 53ZD request.

5. QUALITY PATH

5.1 Commission's proposal

89. 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.
90. 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.
91. The Commission's proposal is a scheme based on:
- a) Setting a target level of quality based on SAIDI/SAIFI performance measured over the 2005-2014 period;
 - b) An incentive rate that applies to variations from the target level of quality;
 - c) A "cap and collar" on revenues at risk from the regime;
 - d) A new normalisation approach to extreme events that relies on a SAIFI threshold;
 - e) Continued use of the boundary value as a substitute for recorded SAIDI/SAIFI on event days;
 - f) No dead-band for performance that is close to the mean; and
 - g) The threat of investigation of businesses that exceed their targets which would apply on top of the incentive scheme.

5.2 Unison's submissions

92. Unison is generally supportive of a change from the current pass/fail regime to an incentive-based scheme. However, as the ENA submission notes, unless there are modifications to the proposed scheme, Unison would prefer the old scheme.
93. Unison's concerns are:
- a) The practice of replacing the SAIDI/SAIFI values on extreme days with boundary values means that incentive payments will be influenced by the frequency of adverse events during a year. Incentive payments should not depend on the weather;
 - b) EDBs face the potential for double penalties if their performance exceeds the target, because they face the costs and risks of investigations as well as incentive payments. Because targets are based on averages, by definition, there is a high likelihood of being

above the average, even if the EDB is aiming to meet the average level of performance because of statistical variation,²⁶

- c) SAIDI is only normalised if the SAIFI threshold is met. If there is a large network fault caused by, for example, a motor vehicle accident where access is prevented due to emergency services requirements, or a localised interruption to a major sub-transmission asset caused by trees falling on lines, then we would be penalised unduly for factors outside our control;
 - d) There is no dead-band for performance. There should be a band around the target where incentive payments do not apply. Only clear departures from the target should be subject to incentive payments, not minor random variations.
94. Unison's preliminary view is that it supports the approach to setting caps and collars and the incentive rates as being reasonable for the first implementation of a quality incentive scheme.

²⁶ For example, there is a 50% probability of being above the target in any given year due to statistical variation, then in any two years there is a 25% probability of exceeding target twice, and in any three years 12.5% probability of exceeding the target three times.

6. CLAWBACK

6.1 Commission's proposal

95. 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.
96. 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

97. Unison wrote 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 its Process and Issues Paper, 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.
98. To date the Commission has refused to provide the information on why it considered that there is no systematic risk associated with claw-back amounts. Unison requested this information under the Official Information Act. However, because the Commission's deliberations were contained in email correspondence between Commissioners the Commission has refused to release its reasoning on the basis that it would inhibit future discussions if the Commission had to provide these documents.
99. While Unison accepts that correspondence between Commissioners should be confidential, Unison remains perplexed as to why the Commission's original reasons for determining that there is no systematic risk associated with claw-back must be kept a secret. Natural justice requires that the Commission, as a quasi-judicial body, must state its reasons.
100. In its process and issues paper, the Commission asked for evidence on whether volume risk is material. Unison responded that, "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."
101. Unison also stated that "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.”

102. Unison remains of the view that it is not fair or reasonable to have to continue to “loan” consumers the amount owed to Unison from the 2012/13 period, with interest accruing at a rate below Unison’s actual cost of debt. Unison still maintains the appropriate compensation rate is the cost of capital, since shareholders carry the risk that the revenues will not materialise one-to-one with the loaned amount. The Commission has not put in place a volume wash-up mechanism to adjust for differences in quantities in the t-2 year and the year of recovery.²⁷ This is particularly a concern given the recent falls in volumes, so it is clear that shareholders are bearing equity risks in recovering the claw-back amounts (as they do with any other revenues).
103. Accordingly, Unison continues to submit that it should have the option of choosing the timing of recovery of the claw-back amount over the regulatory period.

²⁷ The suggestion from Vector that “it is possible to significantly increase the certainty of recovering claw-back amounts by modifying the pricing approach,” is “not supportable”. If EDBs could increase certainty of revenues they would already be doing so.