
Submission to the Commerce Commission

on

2010 – 15 Default Price-Quality Path
Starting Price Adjustments and Other
Amendments (2)

23 May 2011

Made on behalf of 19 Electricity
Distribution Businesses



Submission on 2010 -15 Default Price Quality Path Starting Price Adjustments and Other Amendments Update Paper (2)

This paper forms our second submission on the Commerce Commission's (Commission's) 2010-15 Default Price-Quality Path Starting Price Adjustments and Other Amendments Update Paper (the Update Paper), which has been prepared by PricewaterhouseCoopers (PwC) on behalf of the following 19 Electricity Distribution Businesses (EDBs):

- Alpine Energy Limited
- Buller Electricity Limited
- Counties Power Limited
- Eastland Network Limited
- Electricity Ashburton Limited
- Electricity Invercargill Limited
- Horizon Energy Distribution Limited
- MainPower New Zealand Limited
- Marlborough Lines Limited
- Nelson Electricity Limited
- Network Tasman Limited
- Network Waitaki Limited
- Northpower Limited
- OtagoNet Joint Venture
- The Lines Company Limited
- The Power Company Limited
- Top Energy Limited
- Waipa Networks Limited
- Westpower Limited.

These businesses together supply 23% of electricity consumers, maintain 41% of total distribution network length and service 73% of the total network supply area in New Zealand. They include both consumer owned and non consumer owned businesses; and urban and rural networks located in both the North and South Islands.

Our initial submission dated 16 May 2011 commented on the Update Paper and specifically addressed the following topics:

- Regulatory framework for non-exempt EDBs
- Alternative model
- Measuring current profitability
- Measuring projected profitability
- Proposed Starting Price Adjustment (SPA) process
- Other proposed changes to the Default Price-Quality Path (DPP).

This submission considers in more detail the forecasting assumptions the Commission proposes to use in its Starting Price Adjustment (SPA) Model.

Measuring Projected Profitability

1. The Commission's SPA Model is strongly influenced by the industry wide forecasting assumptions which are proposed to be used for all non-exempt EDBs to project the revenues and costs for each supplier over the five year 2011 -2015 DPP. The present value of the difference between the Commission's forecasts of revenues and costs for each non-exempt EDB forms the basis of the proposed SPAs. Paragraph 1.6 of the Update Paper indicates that the SPAs are the main way of tailoring the DPP to each supplier, given the constant rate of change (X factor) adopted for the sector. However it is proposed that (with the exception of the 2010 starting position) industry wide assumptions will be applied to all EDBs in order to calculate the SPAs. This appears contrary to the objective of tailoring the DPP to individual business circumstances as set out in the Update Paper.
2. We have considered the approach adopted to derive each of the forecasting assumptions. We are concerned at the quality of the data used, the analytical techniques, assumptions and inconsistencies across the measures. We have concluded that the initial forecasting assumptions are not robust enough for the purpose of setting starting prices for EDBs subject to the DPP. We set out our specific comments on each measure below.

Real Revenue Growth

3. Forecast real revenue growth is derived from a forecast of real GDP growth and an assumed differential between GDP growth and industry output growth. This is assumed to be 1% per annum on average. The real GDP growth is derived from Reserve Bank forecasts for 2011-2014, extrapolated to 2015. This data derives an annual real GDP growth estimate of 2.5% per annum.
4. The differential between industry output and real GDP growth is derived from historical analysis of GDP and industry output data. The data used reflects a time series from 1996 – 2010. The differential derived over that period is 0.6% per annum on average. The Update Paper notes that the 0.6% per annum is sensitive to the time periods used, and instead an estimate of 1% has been adopted. It is not clear from the Update Paper or the accompanying models what assumptions were applied to derive the 1%.
5. We also note that over the 1996-2010 periods, the relationship between the industry output measure and GDP reverses as demonstrated in the table below. Up to 2001, industry output grew at a greater rate than GDP (albeit declining). From 2002, industry output grew at a lower rate than GDP, and this trend accelerated in the latter years of the period. This suggests that the relationship between GDP and industry output is not strong. It therefore calls into question the validity of deriving a real revenue growth estimate from these variables.

Figure 1 – Historical GDP and Industry Output Growth Trend

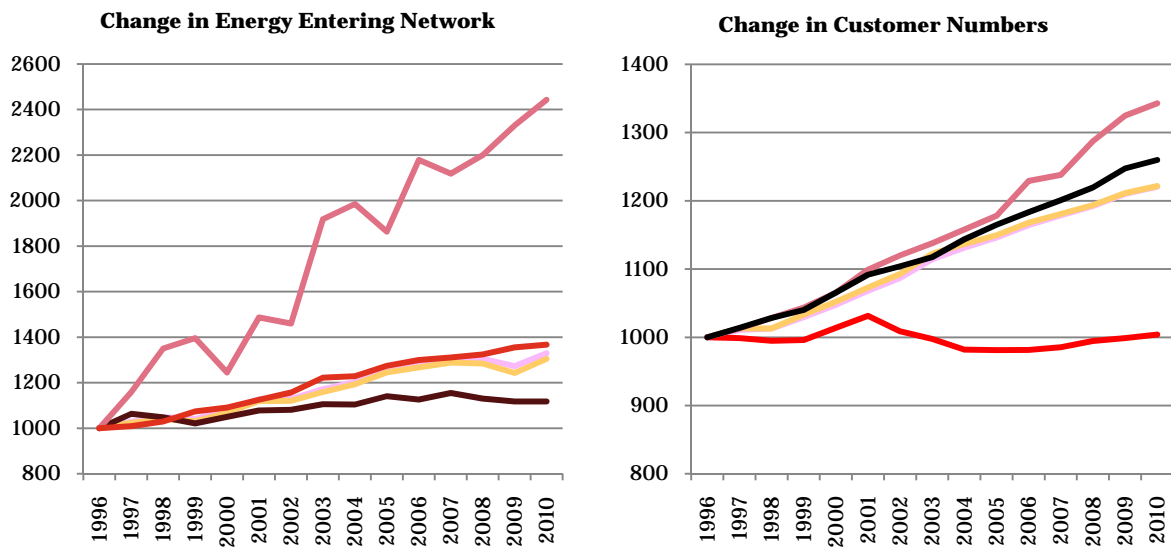
Years	Real GDP growth	Industry output growth	Difference
1996-2010	2.6%	2.1%	0.6%
1997-2010	2.6%	2.2%	0.4%
1998-2010	2.6%	2.3%	0.4%
1999-2010	2.7%	2.4%	0.3%
2000-2010	2.5%	2.4%	0.1%
2001-2010	2.4%	2.3%	0.1%
2002-2010	2.2%	2.2%	0.0%
2003-2010	1.8%	2.2%	-0.3%
2004-2010	1.4%	1.9%	-0.5%
2005-2010	1.0%	1.8%	-0.8%
2006-2010	0.5%	1.7%	-1.2%
2007-2010	0.2%	1.6%	-1.4%
2008-2010	-0.9%	1.8%	-2.7%

2009-2010	-0.4%	2.4%	-2.8%
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Source: Commerce Commission and PwC analysis

- The industry output measure is derived from an industry-wide index calculated from non-exempt EDB historical throughput (kWh), connection (ICP) and capacity (using a kVA km measure developed by Economic Insights (EI)). These measures are weighted using the EI approach: throughput (22%), connections (46%) and system capacity (32%).¹ The dataset is dominated by the largest of the non-exempt EDBs. The ten non-exempt EDBs which support this submission contribute just 11.2% in total to the industry wide output measure in 2010 (which is made up of data from 17 non-exempt EDBs). The smaller non-exempt EDBs therefore have very little influence on the industry output measure which is used to determine real revenue growth.
- The historical data shows considerable divergence between EDB growth rates. The following charts highlight this divergence by selecting a high growth network (Electricity Ashburton), a low growth network (Eastland Network) and a mid growth network (Orion New Zealand) and plotting the output data against the total non-exempt EDB trend and the total industry wide trend (which is inclusive of exempt EDBs).

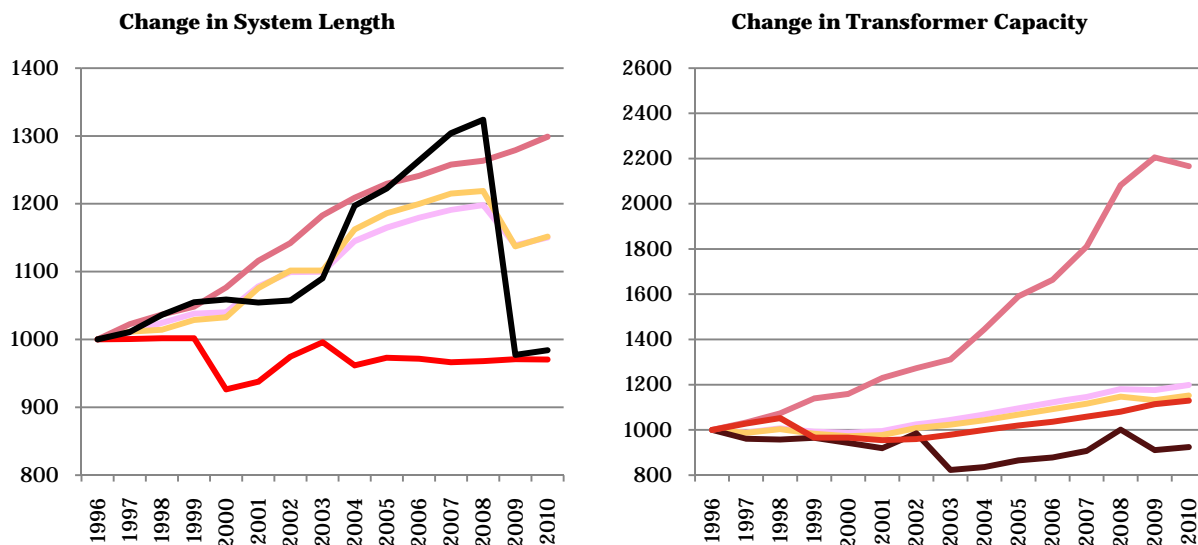
Figure 2 - Historical Industry Output Trends



-Industry Aggregate -Non-exempt EDBs -Eastland Network -Electricity Ashburton -Orion NZ

Source: Economic Insights EDB database; PwC analysis

¹ Refer for example to Economic Insights, Electricity Distribution Industry Productivity Analysis: 1996-2008, page 14-15



Industry Aggregate - Non-exempt EDBs - Eastland Network - Electricity Ashburton - Orion NZ

Source: Economic Insights EDB database; PwC analysis

8. Given the divergence in the industry growth trends, and the dominance of Vector, Powerco, Orion New Zealand, Wellington Electricity and Unison in determining the trends, the EDBs which support this submission submit that the proposed approach is inequitable and unfairly imposes assumptions on smaller EDBs which are derived predominantly from larger EDB performance. We submit that this is contrary to the intention of the Commerce Act's Part 4 provisions for DPPs because:
 - It uses a form of benchmarking to determine SPAs which is specifically prohibited under section 53P(10); and
 - It does not meet the requirement set out in section 53P(3)(b) to determine SPA's on the basis of estimates of current and projected profitability for each supplier.
9. In addition the industry output data used in the Commission's analysis is vulnerable to data quality issues and changes in the specifications of each of the output measures over time. The industry trends illustrated above show step changes in some of the measures during the historical period. These are likely to reflect step changes in the quality of the underlying data (through GIS field capture for example) or modifications in the Information Disclosure Requirements (IDRs) which specify how the data is to be reported. A recent example is the 2008 IDRs² which changed the reporting requirements for transformer capacity and system length. Both measures show a step change in the industry growth rates in 2008 in the charts above.³ The 2008 IDRs anticipated this result and requested in Requirement 14(8) for information to be disclosed which would allow the impact of this change to be quantified for each EDB.
10. We also note that the real revenue growth assumption is used to determine forecast revenue for each EDB. The specification of the industry output index implicitly assumes that revenue is derived from the mix of outputs incorporated in that index. This will not be the case. Each EDB has its own tariff structure which partly reflects the characteristics of the network and customer base it services. Tariff structures may vary widely, and hence the proportion of revenue growth associated with changes in different quantity measures will also differ. These are likely to be influenced by such things as the predominance of large industrial consumers, consumers with low capacity utilisation (such as irrigators), the proportion of mass market consumers and the proportion of consumers subject to the low user fixed charge regulations. The following

² Electricity Distribution (Information Disclosure) Requirements 2008

³ For example the Orion system length growth rate trend shows a reduction in 2008 (illustrated in Figure 2 above) which more than offsets the entire growth in system length from 1996. This reflects the removal of street lighting circuit from the circuit length definition in the 2008 IDRs.

table demonstrates how the manner in which line charges are recovered from consumers differs between some of the EDBs which support this submission.

Figure 3 – Revenue Weights

Charge Type	Electricity Ashburton	Horizon Energy	Nelson Electricity	Network Tasman	Top Energy
Variable	46%	64%	50%	78%	84%
Capacity	46%	8%	17%	13%	7%
Fixed	7%	29%	33%	9%	9%

Source: EDB Data

11. This data is implicitly reflected in the weighted average price cap form of price regulation applying to EDBs. It was also reflected in the historical price path threshold which has applied since 2004. A comparison of the notional revenue reported by each EDB under the thresholds and the actual line charge revenue reported by each EDB under the IDRs should enable the price and output components of historical revenue growth to be established for each EDB since 2004. This is possible because under the thresholds, output quantities have been held constant since the beginning of the price path and these assumptions were preserved in the Initial DPP. The resulting trends would demonstrate the real revenue growth relevant for each network based on the output measures which are directly relevant to each EDB's revenue.
12. If the Commission persists with its real output measure, then the EDBs which support this submission submit that in order to ensure the forecasting assumptions are more equitable and relevant for each supplier:
 - Actual revenue for 2011 for each EDB is used to replace the forecasts for that year;
 - The data used to determine the historical trend in output is derived from the historical performance of each EDB, not the aggregated industry trend;
 - The trend data for each EDB is investigated and modified where necessary to accommodate the change in output measure specification imposed by the Commission in the 2008 IDRs and other modifications which may be identified by each EDB where evidence of data corrections during the historical period is available; and
 - That the output weights are specified consistent with the revenue weights explicit in each EDB's weighted average price path.

Nominal Opex Growth

13. Although the Update Paper sets out preliminary analysis of historical opex trends, this data is not used in the forecast assumptions. Instead the real revenue growth assumption is used to estimate opex volume growth. Historical growth in the Electricity, Gas and Water (EGW) component of the Labour Cost Index (LCI) has been used to estimate historical opex price growth. In order to forecast this component, the Commission has used the CPI forecast as a proxy for the LCI forecast.
14. Accordingly the opex forecast is subject to the same limitations as the real revenue growth forecasts. We note that EDB AMPs include maintenance forecasts (in real terms). Maintenance makes up a large proportion of EDB opex (typically between 40% - 60%). As the AMPs have been used for the capex forecast assumption, we submit they are also a useful source of information to inform the real opex growth assumption for each EDB.
15. We also question the use of CPI for the purpose of estimating opex price inflation. The historical analysis uses the LCI. We also note that the Commission has previously used an NZIER forecast of the Producer's Price Index (PPI) for the purpose of opex forecasts.⁴ In our view the LCI is too narrow as it only addresses

⁴ Commerce Commission, Authorisation for the Control of Supply of Natural Gas Distribution Services by Powerco Ltd and Vector Ltd, Decisions Paper, 30 October 2008, for example Para 837, footnote 493

the labour component of opex. Typically labour comprises about half of maintenance costs, the remainder reflecting materials, fuel and other inputs. Other components of opex include corporate and operations costs which include rent, rates, utilities, insurance etc. We therefore suggest that the Commission considers a more relevant index for the opex price forecast assumptions than its current estimate of the LCI forecast (which is derived from the CPI forecast). Given the availability of a forecast PPI, this appears to be a reasonable option and is consistent with the approach taken for the forecast opex used for the Gas Authorisation.

16. If the Commission persists with its nominal opex forecast approach, then the EDBs which support this submission submit that, in order to ensure the forecasting assumptions are more equitable and relevant for each supplier:
- Actual opex for 2011 for each EDB is used to replace the forecasts;
 - The data used to determine the forecast opex growth is informed by each EDB's AMP maintenance forecast; and
 - The forecast opex price inflation assumptions are informed by forecasts of relevant input prices including labour, materials and fuel which should reflect relevant opex weights for these inputs.

Nominal Capex Growth

17. The forecast nominal capex growth rate is derived from the 2010 AMPs for the non-exempt EDBs. It reflects a simple average of the growth in total capex for the 2010 – 2015 periods. The forecast capex contained in the 2010 AMPs reveals considerable variability between EDBs, as demonstrated below.

Figure 4 – AMP Capex Growth Rates by Non Exempt EDB

EDB	2011	2012	2013	2014	2015
Alpine Energy	103%	-9%	32%	-33%	-35%
Aurora Energy	11%	8%	-14%	16%	-5%
Centralines	18%	-44%	22%	-16%	5%
Eastland Network	13%	7%	-1%	-1%	1%
Electricity Ashburton	-3%	27%	-40%	14%	11%
Electricity Invercargill	60%	-13%	-3%	-12%	-1%
Horizon Energy Distribution	81%	2%	-8%	-22%	4%
Nelson Electricity	329%	2%	-72%	-21%	9%
Network Tasman	116%	-13%	-18%	-14%	12%
Orion New Zealand	19%	48%	-11%	-34%	-9%
OtagoNet Joint Venture	63%	-1%	4%	-2%	-3%
Powerco	4%	4%	4%	2%	2%
The Lines Company	18%	-6%	5%	5%	-8%
Top Energy	90%	12%	-5%	-3%	3%
Unison Networks	21%	20%	-9%	4%	-36%
Vector	19%	8%	6%	4%	-6%
Wellington Electricity Lines	16%	13%	10%	0%	4%
TOTAL	23%	10%	-1%	-4%	-7%

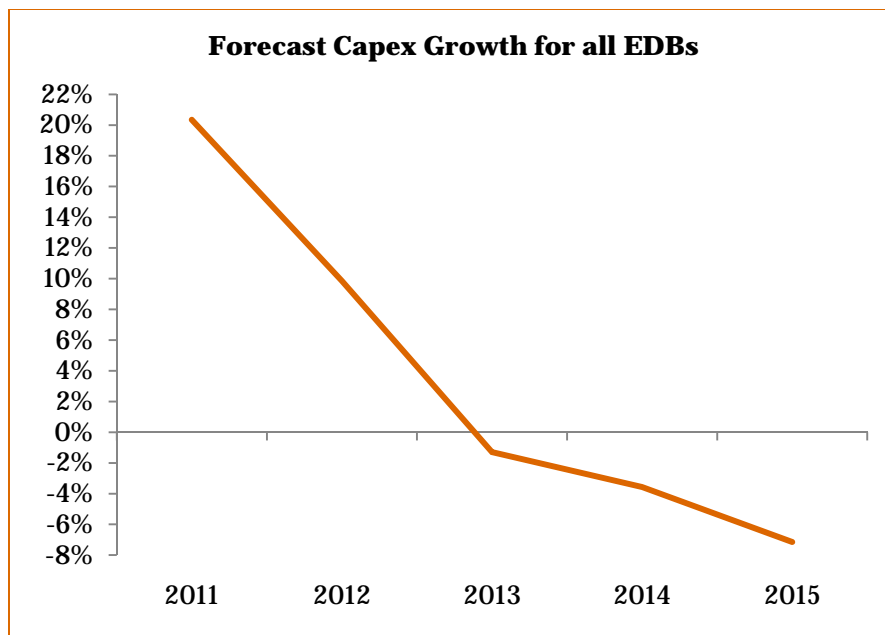
Source: EDB 2010 Asset Management Plans

18. The industry average assumption therefore significantly masks the underlying trends for each EDB. Applying an industry average creates significant winners and losers and therefore is inequitable. We also note that there is inherently a maintenance and capex trade-off within networks in any year. In periods of

high capex (or growth), maintenance can be lower and vice versa. This partly reflects the age of the network, the division between capex renewals and maintenance renewals and the availability of resources to undertake and manage capex projects. Accordingly, if AMP forecasts of capex are to be used in the forecasting assumptions, it follows forecasts of maintenance should also be used to ensure consistency between the two major expenditure components of the forecast.

19. In addition, the capex forecasts illustrate inconsistent growth rates over time, with a significant reduction in the growth of capex in the latter part of the forecast.

Figure 5 – Year on Year AMP Capex Forecasts (Non-exempt EDBs)



Source: EDB 2010 Asset Management Plans

20. This is not as evident in maintenance and is not expected to be. Maintenance projects are not as lumpy and have a more consistent materials/labour split than capex. They are therefore easier to forecast. Capex projects tend to be location specific, require more explicit planning and the scheduling of them is influenced by external factors such as delivery of equipment and external consultant input. Accordingly it is much more difficult to accurately forecast capex projects in each subsequent year of the forecast. The 2008 IDRs for AMPs recognise this. The IDR Handbook specifies the requirements for EDB AMPs and in respect of development plans (ie: the capex forecast) requires:

4.5.5 Network Development Planning

Disclosed AMPs must include a detailed description of network development plans, including:

(g) a description and identification of the network development programme (including distributed generation and non-network solutions) and actions to be taken, including associated expenditure projections.

Explanation: The network development plan should include:

- (i) A detailed description of the projects currently underway or planned to start in the next twelve months;*
- (ii) A summary description of the projects planned in the next four years; and*

(iii) *A high level description of the projects being considered for the remainder of the AMP planning period.*⁵

21. In addition, as EDBs update their AMPs annually, forecasts for the out years are continually improved as each forecast year becomes more immediate. This tends to result in an under forecast of capex in the latter years of an AMP as illustrated in the figure above. We therefore suggest that the use of the AMP capex data will under estimate the capex trend to 2015. This could be moderated by the use of the 2011 AMP capex forecasts. These were prepared and issued prior to the Commission publishing its revised SPA Model, which includes explicit use of the AMP forecasts. EDBs were not aware their forecasts were to be used for this purpose and therefore the Commission's concerns about EDBs potentially overestimating AMP forecasts for the purpose of influencing the SPA outcomes are unfounded.
22. Our major concern with the Commission's proposed approach is that the data which has been used to derive the nominal capex forecast has been misunderstood. EDBs are required to present their AMP expenditure forecasts in real terms, as follows:

7 Disclosure relating to asset management plans

(1) *Before the start of each Financial year, every Distribution business must Publicly disclose an asset management plan that-*

(e) presents forecasts included in the plan in Current dollar terms and does not include any allocations of Operational expenditure: general management, administration and overheads in those forecasts.

Where current dollar terms is defined as follows in Part 1:

Part 1 – Preliminary Provisions

2 Interpretation

Current dollar terms, in relation to a Financial year, means dollars denominated in real terms, as at the mid-point (30 September) of that Financial year

23. The Commission has however extracted the AMP disclosure forecasts and calculated the nominal growth assumption without including any capex price inflation. The capex growth assumptions are therefore understated by the amount of forecast capex price growth.
24. If the Commission persists with its nominal capex forecast approach, then the EDBs which support this submission submit that in order to ensure the forecasting assumptions are more equitable and relevant for each supplier:
- Actual capex for 2011 for each EDB is used to replace the forecasts;
 - The data used to determine the forecast capex growth is derived from each EDB's most recent (2011) AMP (real terms) capex forecasts;
 - The data must be adjusted for capex price inflation; and
 - The forecast capex price inflation assumptions are informed by forecasts of relevant input prices including labour, materials and fuel which should reflect relevant capex weights for these inputs.

CPI Forecast

25. The proposed CPI forecast approach is to use the RBNZ forecast of CPI which is available to 2014 and extrapolate it to 2015. We support the use of this external source for the CPI forecast data. We note the ENA has highlighted an inconsistency in the forecast periods assumed for the CPI in the SPA Model and the risk free rate component of the WACC applied in the SPA Model. We agree with the ENA's submission which proposes that the forecast periods should be consistent.⁶

⁵ Electricity Information Disclosure Handbook, 31 March 2004 (Amended 31 October 2008), pages 25-26

⁶ Electricity Network Association, Submission on DPP Starting Price Adjustments and Related Amendments (2), 23 May 2011, Section 3

Proposed Starting Price Adjustment Model

26. The issues outlined above with each of the forecasting assumptions highlight the difficulty in deriving a set of robust forecasting assumptions for the purpose of the 2012 SPA. Accordingly we do not support the Commission's proposed approach to determining the SPAs which relies heavily on the forecast assumptions. The ENA's alternative proposal (as set out in their submission of 16 May 2011, which we endorsed in our submission of the same date) places less weight on the industry-wide forecasting assumptions, albeit while retaining a forecast component in the second step of the method. We believe this alternative approach assists in avoiding the inequities inherent in the Commission's model and therefore is a materially better method.
27. As set out in our previous submission, the EDBs which support this submission do not agree that the opportunity for EDBs to apply for a Customised Price-Quality Path allows the Commission to implement a substandard method for deriving the DPP to apply to each non-exempt EDB. The proposed method is harmful to some EDBs and beneficial to others simply as a result of data and assumptions which are inappropriate for determining the current and expected profitability of each supplier.
28. If however the Commission persists with its proposed model we submit that the forecasting assumptions must be significantly improved to better reflect the likely circumstances facing each EDB. We have included a range of suggested improvements in this submission for the Commission's consideration. In any event we submit that EDBs should have an opportunity to review and comment on any revisions made to the Commission's approach and in particular the forecasting assumptions prior to the publication of the draft decisions.

General

29. We trust this submission provides useful input for the Commission in finalising its SPA approach. We would be happy to answer any questions you may have regarding this paper.

The primary contact for this submission is:

Lynne Taylor
Director
PricewaterhouseCoopers
lynne.taylor@nz.pwc.com
(09) 355 8573