



**Submission on Information Disclosure:  
Initial Observations on forecasts disclosed  
by 29 electricity distributors in March 2013**

**20 December 2013**

## Introduction

Powerco welcomes the opportunity to comment on the Commerce Commission's paper *Initial Observations on forecasts disclosed by 29 electricity distributors in March 2013*, published on 29 November 2012 ("the initial observations paper").

Our submission is split into three parts. First, we comment on where the Commission can add the most value in its role in summarising and analysing information disclosures (ID). Second, we consider how the Commission's approach can inform the 2015 DPP reset. Third, we provide a range of technical comments on specific matters.

The issues discussed in the initial observations paper are complex. Given the limited time for responding, we have kept our comments in this submission to a relatively high level. We look forward to continuing to engage with the Commission as the ID summary and analysis and DPP forecasting work continues in 2014.

If the Commission wish to discuss any aspects of this submission please contact:

Richard Fletcher  
General Manager, Regulation and Government Relations  
Powerco  
Private Bag 2061  
New Plymouth 4342

Tel: 04 968 9910  
Email: [richard.fletcher@powerco.co.nz](mailto:richard.fletcher@powerco.co.nz)

## **Executive Summary**

### ***Summary and analysis of information disclosure***

We welcome the Commission's initial analysis of the forecasts disclosed by the 29 electricity distributors in March 2013. We appreciate the work that has gone into this exercise and recognise that these initial observations are the first step in a process that we anticipate will become more sophisticated and useful to the industry and consumers as it develops.

Given the public concern about rising electricity prices, there is a need for the information in the asset management plans (AMPs) to be summarised and analysed in a way that makes it more readily digestible by the general reader. We think it important that any summary analysis that is undertaken recognises the very different operating circumstances faced by the different electricity distribution businesses (EDBs). The initial observations paper is a very good starting point that aids thinking about these operational differences. The high level graphs and tables showing industry forecasting trends, escalators and different types of investment are useful and are already stimulating debate.

We suspect that some of the variances between EDBs are due to this being the initial disclosure year. For example, new definitions may have been interpreted differently by different EDBs. In some circumstances, the definitions in information disclosure may also not be capturing the data the Commission intends. The analysis may also be distorted for some variables by having only one year of data. Powerco recommends that the summary and analysis for 2013 be developed to address these issues by:

- Focusing on the high level summaries, as this is the first time that industry-wide information on AMPs has been produced. We consider that the database the Commission has published on its website is already a useful tool to enable interested parties to better understand each EDB and the industry.
- Noting that the analysis of any information that is based on new definitions may be of limited value initially, and aiming instead to build a meaningful picture over time. Providing a draft of the summary and analysis to EDBs to enable them to check that the Commission has not made any inadvertent errors, with sufficient time allowed for the Commission to correct any errors identified.
- Including a section in the document for EDBs to comment on and explain the information they have provided prior to publication.

### ***Method used to forecast expenditure for the DPP reset in 2015***

We recommend that the forecasts used in the DPP reset exercise should be based on the 2014 AMP update schedule data. Completing the new AMP in 2013 consumed significant resources and we believe the information created should now be used (at least in part) to inform the DPP reset.

### ***Technical comments***

Section 3 of this submission provides initial views on technical areas, such as drivers, models and proxies for drivers.

## Part 1: Summary and analysis of information disclosure

### *Concerns about information disclosure*

We support the Commission compiling information to help interested persons better understand the drivers of EDBs' expenditure and how EDBs are performing.

However, the extent to which analysis of the information can be meaningful is limited by the varying characteristics of the different EDBs and the fact that there is currently only (one year of data). The Commission should guard against overly complex analysis which may produce spurious results.

### *Previous comments on benchmarking*

Powerco has made a number of comments in previous submissions on the problems associated with benchmarking EDBs. We have summarised these concerns in this section.

New Zealand has 29 EDBs, each with unique network characteristics. The individual challenges of each network can significantly impact the need for expenditure and the drivers of expenditure. A direct comparison between suppliers, in most instances, is of limited use. This is particularly the case for capital expenditure, given its company-specific and cyclical nature. While much information is disclosed in the AMPs, it is heavily qualified by information specific to each EDB.

The Commission has suggested it may be more appropriate to compare similar EDBs rather than seeking to find consistent expenditure drivers across the industry as a whole. Powerco supports this approach, but believes it may be difficult to establish groupings of EDBs with enough similar characteristics to enable robust benchmarking. For instance, Powerco is one of the largest EDBs by ICP numbers. If grouped against other large EDBs, Powerco appears unique with its long circuit length, a high proportion of overhead lines, with most of its overhead line in rugged, remote or rural terrain.

While it may be straightforward to conduct comparative analysis, it is much more difficult to obtain meaningful results. As Powerco has noted in previous submissions, many factors influence expenditure and the critical factors will vary for each EDB. Costs may vary from year to year and are not easy to quantify or model. In previous disclosures Powerco has noted factors that may influence opex, as shown in the table below.<sup>1</sup>

*Table One: Factors that may influence opex to various degrees annually and over time*

<b>Factors influencing expenditure</b>	<b>Impact on opex</b>
Ease of access: Topography/ urban/CBD/ remote/ rural/ rugged/ rocky ground	Access to network required for inspections, defect corrections and vegetation management. Traffic management costs.
Density (ICP/km)	Likely to have longer line, with consequently more faults, and more travelling expenses/ greater staff time required to fix faults. More expense involved in inspecting assets. Covering large area requires more depots
Vegetation	Large cost trimming trees/ enforcing tree regulations. Network security standards.
Weather	Extreme weather events causing more damage to an extensive

<sup>1</sup> Submission on Information Disclosure: Approaches for understanding EDB and GPB cost efficiency technical paper, 11 November 2011.

	network.
Probability of third party damage	Varying costs to fix damage. May impact insurance costs.
Difficulty of obtaining resource consents: conservation area, iwi relationships	Delayed capex can result in more opex. Companies have very little power to speed up resource consent hearings.

Given the challenges associated with benchmarking EDBs, we consider the Commission should apply the output of the summary and analysis work to help identify outliers which might require more detailed inspection and also focus more on individual supplier improvements over time at the moment.

### ***Issues with 2013 data***

There are three types of issues with the 2013 data that we are aware of. In the main these are transitional issues which relate to 2013 being the first year that the AMP schedules were completed.

#### *Different interpretations of definitions by EDBs*

While EDBs have made every effort to complete the disclosures accurately, there will inevitably be some different interpretations of the definitions. For example, Powerco interpreted “number of connections” in schedule 12c to mean all connections, rather than new connections. We will correct this mistake in 2014, but we are aware that even disclosing new connections has been interpreted differently by different EDBs. For instance, if an EDB gains 3,000 new ICPs a year, but loses 1,000, some EDBs are reporting the total of new connections (3,000), and some are reporting the incremental number (2,000). This is a simple example where interpretations have varied that we are aware of – there may be many more .

#### *Areas where definitions may need to be refined*

Now that EDBs have started disclosing information and have observed how the Commission is using it, it has become apparent that some definitions in the disclosures may need to be refined. For example, Powerco has raised a concern that the definitions provided for the report on forecast capacity may not reflect the true utilisation of the network.

The definition of “Installed Firm Capacity”, is “*the total of the transformer capacities of the transformers installed in the existing zone substation as at the last day of the disclosure year, minus the transformer capacity of the largest transformer, expressed in units of MVA*”. Following this definition, Powerco has not included the capacity of the subtransmission circuits in the evaluation of the Firm Capacity or Utilisation reported.

As such, the capacity information reported reflects only the primary power equipment (i.e. the transformers) installed at the zone substation. This gives a misleading representation of how secure the substation is, as subtransmission circuit constraints are often the most critical constraints. Instances therefore arise where the utilisation, as defined, is well below 100%, but the substation is constrained (due to other reasons). (We have provided more detail on this issue to the Compliance Team and logged our concern on the issues register.)

#### *Data quality ratings and availability*

Schedule 12a, dealing with asset health, asks EDBs to rate the accuracy of the information provided. We have not analysed the level of data accuracy across the industry, but suspect EDBs will have rated their level of accuracy as quite low in some areas. This is because EDBs have not previously

had to disclose this information and, as inspection cycles can be up to 60 months long, there will be many instances where the grade is currently unknown. This will affect the view the EDB may have of data accuracy.

It might be useful for the Commission to summarise and track improvement in the quality of this information over time. This could help to aid understanding of the accuracy of any asset health modelling the Commission undertakes.

We also note that only a small number of distributors have forecast expenditure on energy efficiency, demand side management and reduction in line losses. While Powerco has forecasted this information, it was difficult to provide a long term forecast – this is an area we will look to refine over time. At the moment, our forecast is limited to specific projects that we are able to identify easily and report on separately.

### ***Recommendation***

Given the concerns we have identified with the new 2013 data, we recommend that the summary and analysis be developed to address these concerns by:

- Focusing on the high level summaries, as this is the first time that industry-wide information on AMPs has been produced. We consider that the database the Commission has published on its website is already a great tool to enable interested parties to better understand each EDB.
- Noting that the analysis of any information that is based on new definitions may be of limited value initially, and aiming instead to build a meaningful picture over time. Useful measures could include:
  - o opex and capex per GWh of energy delivered;
  - o opex and capex per MW of maximum coincident demand; and
  - o opex and capex per MVA of capacity from EDB owned distribution transformers.
- Providing a draft of the summary and analysis to EDBs to enable them to check that the Commission has not made any inadvertent errors, with sufficient time allowed for the Commission to correct any errors identified.
- Including a section in the document for EDBs to comment on and explain the information they have provided prior to publication.

## **Part 2: Method for forecasting expenditure for the DPP reset in 2015**

We recommend that the forecasts used in the DPP reset exercise should be based (at least in part) on the 2014 AMP update schedule data. Completing the new AMP in 2013 consumed significant resources and we believe the information created should now be used to inform the DPP reset. The Commission's summary and analysis currently covers the five year forecast period 2014-2018. It would be interesting and helpful to extend this analysis to cover the seven years to 2020. This could help interested parties see how expenditure is changing over regulatory periods.

## **Part 3: Technical comments**

This section provides initial views on a range of areas covered in the initial observations paper. Given the limited time to respond, these comments are not comprehensive. We look forward to

engaging with the Commission and providing more detail as a member of the ENA DPP Forecasting Working Group and through submissions and workshops.

### ***Forecast changes in expenditure***

We note the large variation in forecasts across EDBs compared to the Commission's model, and we expect each EDB will provide commentary to the Commission if they are an outlier. In Powerco's case, we are not an outlier for either opex or capex. While our capex expenditure forecast growth of 24% (2014-2018) is above the mean industry average of 16%, we are in line with the median increase. For opex, our growth (2014-18) is only 4% above the industry average, which equates to less than 1% per year.

We note that many EDBs are considering purchasing spur assets from Transpower. These are large expenditure items, which have the ability to distort the capex forecast, and may be the reason for some of the high increases in forecasts. If this is the case, these purchases should be relatively price neutral (if not price reducing) for consumers.

### ***Historical accuracy of industry forecasts***

The inclusion of historical expenditure compared to forecast expenditure at an industry level provides a useful overview. However, some caution should be exercised when interpreting the expected long-term decline in capital expenditure as this may be due to the first years of an AMP forecast being more detailed and calculated from a bottom up perspective, while the latter years are more likely to be the result of a high level top down approach.

Nevertheless, we recognise that the industry should not have a large variance between budgeted and actual expenditure in the AMP especially if the industry is seeking to have the AMPs used to inform DPP expenditure "allowances". Compared to most other EDBs Powerco has had a relatively low variances between actual and budgeted expenditure – especially over the last few years.

### ***Industry forecasts of expenditure categories***

The initial observations paper shows trends in growth of expenditure across the different categories of opex and capex. The trends align fairly well with Powerco's own expectations. For example, Powerco's forecasts indicate the need for a higher growth in replacement and renewal expenditure when compared to expenditure relating to system growth and consumer connections.

In relation to operational expenditure, Powerco, similar to other EDBs, is forecasting a step change in expenditure in "system operations and network support". We note that EDBs may divide expenditure quite differently across business support and system operations and network support, so a direct comparison may not be reliable.

### ***Drivers***

Powerco has commented previously on what it considers to be the main drivers of operating and capital expenditure. The three categories used by the Commission are reasonable when considered at a high level. Capacity requirements and asset health are easily understandable drivers but the main challenge is how to develop a credible proxies using data which is often limited or incomplete. We provide more comment on proxies in the section below.

One of the issues raised at the recent Commerce Commission workshop was that the "ownership" driver seems to be a catch-all category for a range of things. We expect that forecasting issues will arise due to the lack of precision associated with this category.

As the Commission's analysis develops, it will no doubt become clearer how other factors interplay to affect the specific level of expenditure required by each EDB, both over time and relative to other distributors. Even in instances where the drivers of expenditure are the same for different EDBs, the impacts may be different. For instance, the terrain of the network can affect the cost of accessing assets, or the cost of replacing assets. Over 50% of Powerco's network is located in rugged terrain which necessitates additional operational and capital expenditure.

### **Proxies for drivers**

The table below provides some initial comments on the proxies suggested by the Commission. We stress that these are emerging views, which may change as different proxies are tested as part of the DPP forecasting working group.

<b>Proxy for driver</b>	<b>Comment</b>
<b>Network ownership</b>	
'Total energy delivered in 2013' (Schedule 12(c))	<p>The ownership driver has a number of sub-categories. For example:</p> <ul style="list-style-type: none"> <li>Maintenance and vegetation management (assuming risk appetite, opex/capex trade-offs and vegetation remain constant) is best proxied by the physical volume of assets. Therefore, energy delivered and demand would not be as suitable a proxy as line length and an asset measure. The proxy should have some weighting related to the costs of maintenance/servicing or similar activities.</li> <li>Vegetation management is around 20% of Powerco's network opex, so consideration should be given to how much line is subject to vegetation in the opex forecast.</li> <li>Other activities are related to the number of ICPs: For example, billing, consumer engagement, etc.</li> <li>Others are likely to be constant in real terms, but increase if there is a change in approach, or new requirements – for example, safety and environmental and regulatory compliance requirements. These may be better proxied by step changes in expenditure added to a driver model (as per the insurance approach in the DPP reset).</li> </ul>
'Maximum coincident system demand in 2013' (Schedule 12(c))	
'Distribution transformer capacity (distributor owned)' (Schedule 12(b))	
'Number of assets (by asset category)' (Schedule 9(a))	
'Total circuit length' (Schedule 9(c))	
'Total opening RAB value' (Schedule 4)	
'Number of connections in disclosure year' (Schedule 8)	
<b>Asset health</b>	
'Asset condition at start of planning period' (Schedule 12(a))	This is important information, although we envisage that the data accuracy may be quite low across the industry.
'Percentage of assets forecast to be replaced in the next 5 years' (Schedule 12(a))	This measure is the most useful when considering renewal requirements in the DPP period, as it takes a range of factors and EDB knowledge (such as known issues, obsolescences of equipment and condition-based renewal strategies) into account. The percentage of asset replaced at the end of the period can also be measured to test the extent to which the forecast was delivered.
'Forecast System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) by class B and C' (Schedule 12(d)).	This is an informative measure, but as it is lagging, may not give much useful information. Fault rates across asset types would be more useful, and would feed into the 'Percentage of assets forecast to be replaced in the next 5 years' proxy. This driver would not reflect obsolescence being the driver for replacement.
'Asset Age profile' (Schedule 9(b))	Given the data accuracy issues associated with asset condition, asset age profiles may be a good second best proxy (although we note there are also data accuracy issues associated with age profiles).



<b>Capacity drivers</b>	
'Number of forecast consumer connections' (Schedule 12(c))	This is a useful proxy for customer connections.
'Forecast Total energy delivered to ICPs' (Schedule 12(c))	When looking for a proxy for capacity, 'Forecast maximum coincident system demand' is a much more suitable variable than energy delivered. We note that a rural network would inevitably be less utilised than an urban network due to standard equipment capacities and low loads.
'Forecast maximum coincident system demand' (Schedule 12(c))	
'Current utilisation of installed firm capacity (by zone substation)' (Schedule 12(b))	As already mentioned, and submitted to the ID Issues Register, the definition of "Installed Firm Capacity" excludes the capacity of the subtransmission circuits in the evaluation of the Firm Capacity or Utilisation reported. As such, the capacity information reported reflects only the primary power equipment (i.e. the transformers) installed at the zone substation. This gives a misleading representation of how secure the substation is, as subtransmission circuit constraints are often the most limiting factors affecting firm capacity. Instances therefore arise where the utilisation, as defined, is well below 100%, but the substation is constrained (due to other reasons).
'Expected utilisation of installed firm capacity in five years (by zone substation)' (Schedule 12(a))	

### ***Opex modelling***

The initial work of the DPP forecasting working group suggests that options for opex modelling are fairly limited. Intuitively, the current opex model has some limitations as it is more a cross sectional comparison across EDBs, rather than an estimate of changes over time. However, we recognise the constraints on data, and the mechanism to address step changes used in the last P0 reset. Our comment on the opex model is limited at this stage as we have not had time to review the opex model. We will provide more detailed comments at the next stage of consultation.

One issue with using 2013 "Circuit length" information, is that Powerco has had a material reduction in line length due to improving data accuracy.

As explained in our 2013 information disclosure, the application of Powerco's new Asset Modelling Tool (AMT) has enabled improved granularity and accuracy of the underlying calculations of circuit length. In particular, it has been possible to define more accurately service lines and service line lengths on Powerco's networks, and exclude them from the calculation of total circuit length as required by the disclosure definition. The process of refining circuit length calculations has helped identify a category of lines which had previously been included in the calculation but which more appropriately should be excluded under the disclosure definition. This explains Powerco's reported reduction in disclosed line length for this period. If the Commission intends to use line length we have a number of options for removing this data cleansing anomaly that we can discuss with the Commission.

Vegetation management is a key driver of future network operating expenditure for Powerco. We are therefore interested in whether the information disclosure data can model this as a separate category.

### ***Capex modelling***

The Commission has suggested two approaches for modelling capex: the adjustment method and the absolute method. At this stage we have an open mind on the application of either approach.

However, we are concerned that the lack of information on unit costs will limit the use of the absolute method.

### **“Add-ons” to models**

The Commission recognises that there may be drivers that cannot be modelled by proxies, and “add-ons” may be needed (as per the insurance increase due to the Christchurch earthquake impact in the Po opex model). Areas that require further consideration, across both capex and opex are:

- changes to health and safety law and regulation in New Zealand;
- earthquake strengthening, and the Government’s aim to increase resilience of the network to high impact low probability events;
- EDBs possibly taking a more active role in ownership and maintenance of consumer service lines, due to safety risks; and
- additional liability exposures to the passing of the Consumer Law Reform Bill.

### ***Escalators/ input prices***

Most EDBs have used either NZIER, Treasury or RBNZ CPI forecasts to calculate the difference between real and nominal expenditure. As noted at the workshop, EDBs forecast in real terms, and seem to have used CPI as the definitional difference between real and nominal, rather than their expectation of changes to input costs.

In Powerco’s case, we monitor forecasts of LCI, PPI and CGPI, and find that they are not particularly dissimilar from CPI in the near-term. When needing a 10 year forecast (and beyond), we chose to use CPI for a variety of reasons. One of the main benefits is that there is a number of robust models available.

### ***Targets for service quality***

The AMP forecast for service quality focuses on SAIDI and SAIFI. The initial observations papers assumes that a distributor that does not maintain its assets, or invest in replacing assets in poor condition, will have a higher number and duration of interruptions relative to a distributor with assets in better condition.

This statement does not fully reflect the fact that the level of third party damage or foreign interference can impact on reliability performance and these performance drivers are not necessarily related to the condition of the assets.

The figures reported for SAIDI and SAIFI by Powerco have been normalised for anticipated major event days. Major event days were removed from the forecast as the impact of abnormal weather on the network and subsequent interruptions are not a result of the condition of the assets.

Powerco supports the ENA initiative to explore broader aspects of quality and customer service and how these can be reported.