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Maree McGregor
Electricity Commission
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13 March 2008

SUBMISSION ON GRID PLANNING ASSUMPTIONS FEBRUARY 2008 DRAFT FOR CONSULTATION

Dear Maree,

Introduction

1. Vector welcomes the opportunity to comment on the 'Grid Planning Assumptions (GPA) February 2008 draft for consultation: Overview Paper' released for consultation by the Electricity Commission (the Commission) on 20 February 2008.

2. The following submission outlines Vector's comments and issues at this point in time, without having had much opportunity to digest the workshop discussion and the implications of the large numbers of documents provided (13 documents posted on 20 February). We would be happy to discuss these issues further with the Commission and will provide further comment during the consultation for the draft SOO 2008 (planned for mid-2008).

National Demand Forecast Model

3. In Vector's view, the industry should adopt consistent terminology when discussing energy and demand. Vector believes there is unnecessary confusion arising within the industry when discussing overall energy (measured in GWh) and peak demand (measured in MW). Throughout this submission Vector will use the following terminology:

demand = peak demand (in MW)
energy = overall energy use (in GWh)

4. The current approach to national forecasting continues to start with an overall energy use model forecasting national electrical energy use in GWh. Vector is strongly of the view that overall energy use has less relevance to the timely development of transmission/distribution assets. Transmission and

distribution assets must be sized to meet peak demand (MW) and hence any forecasting model should be primarily based on peak demand. Energy use statistics are of secondary interest to a system planner.

5. On the issue of drivers of energy demand, Vector believes there are a range of issues to consider, and that GDP and population growth are overly simplistic and are effectively interdependent with energy demand. Demand elasticity, the relative prices paid by consumers for different energy types and their ability to pay, driven by technological development, disposable income, costs of generation etc are a more appropriate means for understanding the underlying drivers of demand.

6. A good example of the overly simplistic approach of using GDP and population growth becomes stark when some attempt is made to forecast the impact of an Emissions Trading Scheme on New Zealand. Depending on assumptions about carbon prices and abatement opportunities, it is feasible that there may well be significant switches in energy consumption behaviour that would not register via macro GDP or population measures.[1]

7. In short Vector would strongly support significantly more effort being applied in this process to understand the underlying drivers of energy demand in New Zealand.

Draft Regional Peak Demand Forecast

8. Vector supports the Commission's adoption of planning for a prudent peak. Vector concurs with the methodology outlined albeit we differ on the preferred probability of exceedence (PoE). Vector believes that a PoE of 10% is insufficiently robust, and suggests that a PoE of 5% or lower is what the consumer expects. This issue needs to be carefully considered; in our estimation exceeding the prudent forecast one year in ten is not appropriate.

9. We note that treatment of significant load step changes need to be consistent with the underlying dataset being used. Forecasting based on historic datasets will already include an element of historic load step changes, which will be reflected in the inter-year statistical variances. Any adjustment made to a forecast needs to ensure that this will not be inconsistent with the inherent statistical variances of the dataset.

Draft Generation Scenarios

10. Vector believes the assumed load factor for Combined Cycle Gas Turbine (CCGT) thermal generators has been understated in the analysis. Applying load

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[1] For a good starting point analysis see: http://www.treasury.govt.nz/publications/research-policy/wp/2004/04-23/twp04-23.pdf

factors of only 50% and 70% is well below the typical plant availability of 90-95%. This potentially misrepresents CCGT's in LRMC analysis.

Closing comment

11. Thank you for considering this submission. Vector would welcome an opportunity to discuss the issues outlined above in more detail with the Commission. Please feel free to contact me if you have any queries.

Kind regards

Ewan Gebbie

Group Manager Regulatory Performance