



12 May 2009

Your ref:
Our ref: TPR 1/5

Manager, Economics and Approvals
Grid Development
Transpower New Zealand Ltd
P O Box 1021
WELLINGTON

Dear Sir,

Lower South Island Reliability Investigation

This submission is provided on behalf of Aurora Energy Ltd.

Introduction

Aurora Energy Ltd is the electricity lines business which owns and operates the distribution network in Dunedin and Central Otago. Supply from the Transpower grid is taken from the Dunedin GXP's of Halfway Bush and South Dunedin and from the Central Otago GXP's of Cromwell, Frankton and Clyde. The total network demand is close to 300 MW and over 80,500 network connections are supplied however typically 45 MW of demand is supplied from several sources of embedded generation.

This submission is in response to the Consultation Document (Document) – Lower South Island Reliability Investigation – Assumptions, Approach and Options. The Document states “that by 2012, under a prudent demand forecast, the present configuration and capacity of the 110KV network between Palmerston-Dunedin, Roxburgh and Invercargill will be insufficient to meet power system security and quality of supply in the Coastal Otago and Southland region. There are already considerable operational difficulties when assets in the region are removed for maintenance such as having to constrain generation and thereby reducing security of supply.”

The Document provides a list of questions which Aurora has responded to as part of this submission.

Overall Aurora supports improvements to the delivery capacity of the lower South Island grid so that constraints are minimised where justified and especially where improvements to the maintenance window will result.

Q1. Are there any other development plan issues or considerations that should be incorporated into the analysis of the Lower South Island Reliability project?

Aurora does not believe that it is acceptable now or in 2012 to introduce operational measures in the form of pre-contingency grid reconfiguration measures (with the likelihood of reducing security of supply at grid exit points) and pre-contingency load management.

Pre-contingency load management already occurs on too many days and security of supply is reduced in the Dunedin area to N when assets other than grid connection assets are removed from the region. For example when either of the 220kV lines from Halfway Bush to South Dunedin or Three Mile Hill are removed for maintenance then security of supply has been reduced at the Halfway Bush grid exit point as one or more transformers are removed from service. As loads increase in the region the likelihood of more pre-contingency grid reconfiguration or pre-contingency load management is not acceptable.

Q2. Do respondents consider that the demand assumptions are appropriate for this project?

The demands assumptions listed in Table 1 of the Document for South Dunedin, Halfway Bush and Clyde are appropriate however we query why the loads for the high growth grid exit points of Cromwell and Frankton are missing from Table 1. We note that the Covec report does have forecast demands for Cromwell and Frankton, however both the expected and prudent forecasts in the Covec report are much lower than the predicted demands in the 2009 Aurora Asset Management Plan (page 61).

Expected 2019 Demands	2009 Aurora AMP	Covec Expect MW	Covec Prudent MW
Cromwell	52.8	37.3	46.0
Frankton	80.1	62.4	69.9

It should be pointed out that the Aurora demand assumptions are only a snapshot in time based upon previous demand growth and adjusted for known step changes in load. It is also frequently the case that due to commercial sensitivities, parties associated with prospective new connections only approach Aurora quite late in their planning process.

There are a several large scale irrigation projects being investigated which will impact on the summer demands on the Clyde and Cromwell GXPs within the next 4 years and these projects may also may impact on the winter demands if they proceed.

Q3. Do respondents consider that the generation assumptions are appropriate for this project?

We note that the Deep Stream Hydro owned by Trustpower and commissioned in 2008 is missing from the list of embedded generation connected to the Halfway Bush GXP.

Q4. Are there any other qualifying options which should be considered as part of Transpower’s long list of options for the lower investigation project?

Transpower states that the present capacity and configuration of the 110kV grid is the key issue. Not listed as part of the qualifying options are any measures to move load from the 110kV grid to the 220kV grid. This could be contemplated at Halfway Bush where there are two old 50 MVA transformers that are connected to the 110KV grid and which could be replaced by new transformers connected to the 220kV grid at Halfway Bush.

In addition it is understood that the Balclutha GXP which is supplied from the 110KV grid could also be transferred to the 220kV grid by the addition of a short 220kV circuit.

Q5. Do you consider that any of the identified options in Transpower's long list do not come within the definition of "alternative projects" as defined under the Rules; or are inconsistent with good electricity practice? Please explain.

No response.

Q6. Do respondents consider this commensurate GIT approach to be reasonable for Transpower to apply when considering the lower South Island reliability project?

No response.

Q7. Are there other market costs or benefits which should be reflected in the analysis?

A secure electricity supply is an enabler for wider economic benefits across the region. When there are public concerns that the electricity delivery system is constrained then new commercial initiatives are likely to be focussed in those regions where there are no concerns regarding future capacity.

Q8. Do respondents consider this Value of Lost load is appropriate for valuing lost load in the lower South Island region?

The \$22,000 per MWh for lost load allowable under the Rules is understood to be an average value which is based upon an average mix of residential, commercial and industrial load. Aurora believes that Transpower should use values which are appropriate for the load mix at each GXP during the reliability analysis. Where the load mix is predominantly industrial or commercial, then higher values which reflect the higher values of lost load which are likely to be experienced by actual downstream consumers should be utilised.

Yours Sincerely,

Lindsay McLennan
NETWORK SERVICES MANAGER

For Aurora Energy Ltd