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Manager Economics and Approvals
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By email: gridinvestmentprojects@transpower.co.nz

Dear Jin

Bunnythorpe-Haywards Transmission Line Investigation

Genesis Power Limited, trading as Genesis Energy, welcomes the opportunity to provide a submission to Transpower on the consultation paper "Bunnythorpe-Haywards A and B Transmission Line Investigation: Assumptions, Approach and Long List Options" dated October 2010.

Genesis Energy is comfortable with the process that Transpower has followed for this transmission line investigation. However, we have some concerns with Transpower's approach to transmission network planning and its assumptions around potential generation projects in the Bunnythorpe-Haywards region. We will expand on these points below and have set out our responses to the consultation questions in Appendix A.

Piecemeal Approach to Transmission Network Planning

Genesis Energy is disappointed that Transpower is investigating work on the Bunnythorpe-Haywards transmission network prior to the Lower North Island (LNI) transmission investigation.

It appears that work in the LNI region is being driven by the need for urgent maintenance or asset replacement and parts of the network are being split off into separate projects. This approach conflicts with the comprehensive approach anticipated through the upcoming LNI investigation that intends to cover the

whole area from Taranaki to the central North Island to Wellington and will also consider the ability of the HVDC and the grid to transmit power southwards.

We are particularly concerned that options that could maximise the efficiency of the entire LNI transmission network are being foregone, due to the urgent need to replace assets. For example, when the Woodville-Mangamaire-Masterton reconductoring project was undertaken, the option of creating a 220kV loop down the Wairarapa side was excluded due to the urgent need to replace the conductors on these circuits.

Genesis Energy encourages Transpower to take a more strategic view of the entire LNI transmission network, when it considers options for the Bunnythorpe-Haywards network, to ensure the option selected is sufficiently flexible for future growth (both generation and demand). We believe the Commerce Commission's new regulatory framework for Transpower should support a more proactive approach to asset management and will assist in avoiding situations like this reoccurring.

Exclusion of Castle Hill Wind Farm from Future Generation Projects

Genesis Energy notes that our proposed Castle Hill wind farm¹ has not been included within the list of potential generation projects (section 7.2), as Transpower has relied solely on the information provided in the 2010 Statement of Opportunities (SoO). The Castle Hill wind farm has a potential generating capacity of up to 600 MW and is likely to be connected to the 220kV network between Linton and Bunnythorpe.² This is significant project that will impact on both the Bunnythorpe-Haywards and LNI investigations.

Genesis Energy recommends that Transpower does not rely on the SoO as its sole source of information when compiling generation development assumptions. As noted in our submission to the Electricity Commission,³ the 2010 SoO scenarios had omitted a number of publicly available generation plans such as Castle Hill. Often, projects may not be nominated for inclusion within the SoO because they are in the early stages of development (for example, no resource consent application). However, given the planning timeframes for transmission

¹Information on Castle Hill Wind Farm, Genesis Energy website, http://www.genesisenergy.co.nz/genesis/generation/our-projects/castle-hill/castle-hill_home.cfm

²*Transmission and Connection to the Grid*, poster from Castle Hill open day, Genesis Energy http://www.genesisenergy.co.nz/shadomx/apps/fms/fmsdownload.cfm?file_uuid=54DB5B27-C09F-4299-6DF0-72486444B025&siteName=genesis

³*Draft 2010 Statement of Opportunities*, Genesis Energy submission to the Electricity Commission, 5 August 2010, <http://www.ea.govt.nz/our-work/consultations/soo/2010-draft-soo/submissions/>

investigations, the projects could be very credible candidates for inclusion in the list of modelled generation projects.

If you would like to discuss any of these matters further, please contact me on 04 495 6354.

Yours sincerely

A handwritten signature in black ink, appearing to read 'KJ Collins', with a stylized, flowing script.

Karen Collins
Senior Regulatory Advisor

Appendix A: Responses to Consultation Questions

QUESTION	COMMENT
<p>Q1. Are there any known development plans or issues that should be incorporated into the analysis of the Bunnythorpe–Haywards 220 kV Transmission Line Investigation?</p>	<p>Genesis Energy notes that Transpower is putting a strong emphasis on the ability of the Bunnythorpe–Haywards circuits to get electricity to and from the HVDC link. It is important to also consider the ability of these circuits to facilitate the connection of new generation.</p> <p>In addition, Transpower should consider sizing the Bunnythorpe-Haywards circuits for the upgrade of the HVDC link to 1400 MW.</p>
<p>Q2. Are there any other qualifying options which should be considered as part of Transpower’s long list of options for the Bunnythorpe-Haywards 220 kV Transmission Line Investigation?</p>	<p>Genesis Energy suggests the following option be added to Transpower’s long list of options for the Bunnythorpe-Haywards investigation:</p> <ul style="list-style-type: none"> • constructing a new 220 kV transmission loop through the Wairarapa. <p>This would assist with the load on the Bunnythorpe-Haywards circuits and would aid the connection of new generation (particularly renewables in the Wairarapa region).</p>
<p>Q3. 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.</p>	<p>Genesis Energy questions whether designing the core electricity grid to rely upon a HVDC run-back would be considered good industry practice.</p>

QUESTION	COMMENT
Q4. Do you consider the demand forecast assumptions are appropriate for this investigation?	Yes.
Q5. Do you know of any additional load changes that should be included in the demand forecast?	No.
Q6. Any change in generation for the Bunnythorpe, Haywards or Wellington regions is likely to affect power flows on the Bunnythorpe-Haywards 220 kV circuits. Do you consider that the generation assumptions are appropriate for this investigation?	No. As noted in the cover letter, Transpower has not included Genesis Energy's proposed Castle Hill wind farm in its future generation assumptions.
Q7. Do you consider this commensurate GIT approach to be reasonable for Transpower to apply when considering the Bunnythorpe-Haywards 220 kV Transmission Line Investigation?	Yes.
Q8. Are there other market costs or benefits which should be reflected in the analysis?	Genesis Energy recommends that avoided transmission construction costs be included in the Grid Investment Test analysis. For example, work undertaken on the Haywards-Masterton line may reduce the need for work on the Bunnythorpe-Haywards circuits (or vice versa).

QUESTION	COMMENT
<p>Q9. Do you consider the proposed analysis period to be appropriate for the evaluation of options?</p>	<p>Genesis Energy is comfortable with the proposed analysis period selected for the investigation.</p> <p>However, we query how the eight year timeframe for replacing the conductors can be reconciled with the need date of 2015.⁴ There appears to be a mismatch in timing.</p>
<p>Q10. Do you consider this Value of Lost Load (\$23,881 per MWh) is appropriate for valuing lost load in the Bunnythorpe-Haywards region?</p>	<p>No comment.</p>
<p>Q11. Do you consider this VoLL is appropriate for valuing lost load for your business? If not, what alternate VoLL would you recommend and what evidence are you able to provide to support it?</p>	<p>No comment.</p>

⁴ As specified in Section 8.1 of the consultation document.