

# Impact of Thermal Generator Decommissioning

On Thursday 17 December 2015, Transpower invited industry participants to attend a teleconference to discuss the 9 December publication of its report titled 'Security of Supply Analysis Findings and Implications of Thermal Decommissioning'<sup>1</sup>.

Representatives of the following companies attended the teleconference: Transpower, Contact Energy Ltd, Meridian Energy, Mighty River Power and MEUG.

The questions from participants and responses from Transpower representatives are outlined below.

Questions	Responses
<p>Regarding the Whirinaki power station, how has this been treated for energy and capacity?</p> <p>Is the 100 gigawatt hours included in your calculations or not, and how is transfer capacity at Whirinaki looking?</p>	<p>Bennet Tucker, Transpower: In terms of capacity, Whirinaki is assumed to be fully available.</p> <p>For energy, we assume limited availability due to fuel constraints.</p>
<p>Is there any reason this additional energy at Whirinaki is not included in your report's overall totals?</p>	<p>Bennet Tucker, Transpower: Whirinaki has been discussed previously but we chose not to change the standing assumption based on what we understand the fuel limitations at Whirinaki to be.</p> <p>The view of the System Operator is purposely conservative in its assumptions. We do welcome feedback on our assumptions and will assess the validity of this assumption. If required, we will revise the Security of Supply modelling assumptions from this point forward.</p> <p>Contact representative: To add to what Bennet is saying, from our perspective, if it is required there will be fuel there. 100 GWh is just a number from 2008 and fuel may not be a limiting factor. In addition to what's stored there, we can get a reasonable amount of fuel within a good notice period.</p>
<p>How does the 1.38% demand figure differ from the Transmission Planning Report (TPR) and nationally?</p>	<p>Bennet Tucker, Transpower: We've adopted Grid Development's P50 forecast method and then tweaked that to reflect embedded generation. While Grid Development analysis reflects Grid Exit Points (GXP) despite our tweaks, they are the same average growth rate.</p>

<sup>1</sup> [Security of Supply Analysis of Thermal Decommissioning](#)

	<p>Nikki Newham, Transpower: In Grid Development, over the last few months we've been analysing grid needs post the Rankine unit decommissioning. We are looking to publish our findings early in 2016; these will look in more detail at thermal constraints into Auckland and the central/upper North Island, static and dynamic voltage issues, fault levels and maintenance outage windows.</p> <p>It's important to note we are only identifying where and when issues may arise for now; we are not offering solutions at this stage. Once these issues have been studied and understood, we will investigate options to resolve them, including the economic justification for any investment. A significant input to this work will be the development of future generation scenarios that cover a range of possible futures.</p> <p>We are already initiating the work to look at options for resolving the Bunnythorpe—Mataroa thermal limits.</p>
<p>With studies to date, have they concluded similarly to the System Operator's findings on Auckland voltage stability?<sup>2</sup></p>	<p>Nikki Newham, Transpower: It's too early for us to comment right now on the voltage stability report as it is currently being reviewed.</p> <p>Generally speaking, the studies are closely matched, and we are seeing similar issues, but can't confirm detailed numbers. Both BPE-MPR constraints are identified.</p>
<p>We appreciate the need to get credible information on generation solutions. How will you engage with companies like us?</p>	<p>Nikki Newham, Transpower: Meetings are being set up to engage with companies like yourselves in early 2016. This must tie into the MBIE process (EDGS) and whatever we share will be publicly available but anonymised. We are happy to receive generation information from participants at any time.</p>
<p>At an Auckland forum in November, we asked about the impact of Transmission Pricing Methodology (TPM) on peak Auckland demand. Do you have any further thoughts on this?</p>	<p>Nikki Newham, Transpower: From the perspective of the TPM impacting load peaks, we acknowledge this through looking at load forecast sensitivities. There are some TPM options that may increase load peaks and others that may reduce them. We can, and do, look at how the investments proposed change based on load forecast assumptions.</p> <p>From the perspective of costs and where they lie, we must act for the greatest benefit to the whole country and essentially take a stand back from TPM when making decisions regarding investment.</p> <p>We are happy to discuss and explore this further.</p>

<sup>2</sup> [UNI Supply Study – Managing Peak Loads Following Southdown and Otahuhu Retirements](#)

<p>Will options in the report include how much it will cost and who will pay?</p>	<p>Nikki Newham, Transpower: Options analysis will start as soon as we finalise stage 1 reports, which identify where and when issues may arise, and get clarity on the generation scenarios. The investment process itself involves consultation – especially high cost investments. Right now it's difficult for us to comment on exactly what stage and who will be involved. We will keep you updated.</p>
<p>What's the process with all the security of supply reports? Where do we go from here?</p>	<p>Bennet Tucker, Transpower: From a Security of Supply perspective, we are letting the industry digest this latest information then will debrief and assess what further information we can provide. We are open to any suggestions.</p>
<p>I am curious as to when this will become more than just an industry issue?</p>	<p>Bennet Tucker, Transpower: We suspect this is beyond the mandate of Transpower, as this is determined more by industry participants – but we take an interest.</p> <p>John Clarke, GM System Operations Transpower: We don't make recommendations as such – our role as System Operator is to monitor, report, and situation management.</p> <p>We can offer analysis and observations and outline issues for the wider industry to resolve.</p>
<p>Can we see the output files of Stochastic Dual Dynamic Programming (SDDP)?</p>	<p>Bennet Tucker, Transpower: This should be simple enough for us to share. The results are available but may need tidying before public release.</p>
<p>What can you tell us about treatment of Meridian's contingent storage in risk curves? Once things get clearer is it modelled differently?</p>	<p>Bennet Tucker, Transpower: Currently ignored in hydro risk curves, contingent storage is effectively below the zero. There is a certain amount of storage that becomes available when you hit the line on the risk curves. The circular nature of the calculations means it is difficult to include in the modelling.</p> <p>Current policy states that we should ignore contingent storage when calculating hydro risk – we speak regularly with the Electricity Authority (EA) on this particular issue to make sure our modelling is appropriate.</p>
<p>Where does the Security and Reliability Council sit in terms of this process? Do people have time to absorb/respond before emergency action may be required?  How are you approaching this work?</p>	<p>John Clarke, GM System Operations Transpower: We shared this information with the Electricity Authority and it is up to them and the secretariat to decide if the Security and Reliability Council gets involved. They don't have a role in supply emergencies.</p> <p>Gillian Rodger, Transpower: The System Operator is looking at the thermal decommissioning work in phases, with studies completed looking at the Otahuhu and Southdown closures. We are now looking to identify issues and find operation solutions</p>

	<p>following the decommissionings of the Rankine units.</p> <p>Studies will be starting in early 2016 after the finalisation of the scope of work. If you have any suggestions or comments about what the studies could include, please contact me with these for consideration on the understanding that any findings will be published in a report through our website.</p> <p>This analysis is a key focus and we are aiming to have results available early in 2016.</p>
<p>Regarding scenario 4, linked to a potential Tiwai closure: are there any expected difficulties to transfer to the North Island? Any line constraints?</p>	<p>Bennet Tucker, Transpower: SDDP modelling is limited in its transmission modelling, nothing obvious that dropped out other than a significant increase in north flow in peak and energy. Yes, constraints are likely in the future but we do not have enough information to describe in great detail yet.</p> <p>John Clarke, GM System Operations Transpower: The key point of all of this, given current grid configuration, is that it is possible to shift surplus energy from Tiwai north (if it were to close) but we can't shift peak capacity – this is a big challenge. Transpower is committed to working to solve this.</p> <p>Stephen Jay, GM Grid Development Transpower: This is a large priority project with a lot of people involved. We want to work with industry, to get your views and questions.</p> <p>I look forward to resolving this in a timely manner with you.</p>
<p>How does the Demand Response programme fit with this? Was it considered when looking at all the scenarios?</p>	<p>Stephen Jay, GM Grid Development Transpower: Typically we looked at Demand Response as an option to control load and defer investment – we will likely continue to explore this.</p>

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