

Avoided Cost of Transmission (ACOT) – proposed TPM-related amendments

Questions to, and response from, Transpower following receipt of submissions – for feedback from interested parties

Electricity Authority questions – 4 November 2022

Context for questions

1. The Authority has been consulting on changes to Part 6 (Schedule 6.4) of the Code relating to avoided costs of transmission (ACOT). Transpower has both submitted and cross-submitted on these proposed changes (on 20 October and 3 November 2022 respectively).
2. The position of Transpower, as the System Operator, in relation to system security is very clear from those submissions:

“Transpower, as the system operator, does not support the immediate removal of provisions for ACOT payments from the distributed generation pricing principles. We support a phase-out.

While ACOT payments were not intended to assist with system security, nevertheless as they provide a financial incentive for distributed generation to operate at peak times there is a risk that their removal could impact system security.”

3. We are interested in better understanding the position of Transpower, as the Grid Owner, in relation to the grid reliability issue the ACOT phase out option (option two from the ACOT consultation paper) was intended to address. We appreciate that Transpower stated in broad terms in its initial submission that:
 - a. Under the Commerce Commission Part 4 regime Transpower should be incentivised to deliver the least cost solution, whatever form it might take
 - b. Transpower can contract for grid support services
 - c. Payments for transmission alternatives can lead to more efficient consumer outcomes
 - d. Transpower is concerned that further regulatory intervention could create barriers to procuring these transmission alternatives.
4. While we can draw some implications from those statements, we are interested in better understanding the view of Transpower, as the Grid Owner, on the Authority’s specific consultation document proposition that “stopping ACOT payments is unlikely to change distributed generator availability or behaviour in a way that would worsen grid reliability, particularly given nodal prices will still encourage generation at times and locations of transmission network stress”.
5. Similarly, we are interested in understanding Transpower’s views, as the Grid Owner, with respect to:
 - a. Case studies attached to the Manawa Energy and King Country Energy submissions regarding distributed generation at Kaimai and Mangahao, which assert that:
 - i. Generation from those respective distributed generators is necessary for Transpower to achieve a n-1 grid reliability standard

- ii. Those generators may change their generating behaviour if ACOT payments cease, putting achievement of the grid reliability standard at risk.

[We note that, at least in the case of Kaimai, Manawa’s cross-submission also states that Transpower has not approached Manawa to discuss how Kaimai might assist in providing n-1 grid security from 1 April 2023.]

- b. Similar submissions from Top Energy and Ngāwhā Generation regarding the impact of removing ACOT payments on grid support in the Far North that is currently provided by generation from Ngāwhā.
6. Transpower is uniquely placed to express a view on these issues. A comprehensive response from Transpower to the following questions would be very helpful to achieving the best outcome from the Authority’s consultation – otherwise the Authority will have to draw its own inferences with respect to these issues in the absence of further information.

Questions

7. What is Transpower’s response, as the Grid Owner, to the Authority’s consultation document proposition that “stopping ACOT payments is unlikely to change distributed generator availability or behaviour in a way that would worsen grid reliability, particularly given nodal prices will still encourage generation at times and locations of transmission network stress”?
8. If Transpower’s response is that the grid reliability impact is uncertain, and assuming for the purposes of this information request that the Authority stops any regulatory requirement to make ACOT payments on 1 April 2023 (i.e., option one from the ACOT consultation paper), how would Transpower expect to go about reducing this uncertainty both before 1 April 2023 and after?
9. For each of the distributed generators Kaimai, Mangahao and Ngāwhā:
- a. Does Transpower agree that generation from each is currently necessary for Transpower to achieve a n-1 grid reliability standard in the relevant parts of the grid?
 - b. If so, please describe how Transpower intends to investigate, and if necessary procure, contracts with each of these generators for grid support should the Authority decide to implement option one from the ACOT consultation paper (ie, outline the process you intend to follow). In answering this request we would like you to include comment upon:
 - i. Transpower’s obligations in relation to the grid reliability standards under the Code and under the Benchmark Agreement
 - ii. Manawa’s submission in their Appendix B report relating to Kaimai (KMI) that “Transpower has advised Manawa that it believes the spot market is the solution so that KMI receives constraint payments”.
 - c. What if any regulatory support/changes would Transpower need to enable it to enter into this type of grid support contract? We particularly note Manawa’s submission in their Appendix B report that “Transpower may be reluctant to contract for grid support in the case of KMI because of its own regulatory regime”.
 - d. If Transpower considers that investigating/procuring grid support contracts with these generators is not necessary for n-1 security in the relevant parts of the grid (at least not by 1 April 2023), please explain your reasoning for reaching this view.

Transpower's response – 10 November 2022

References in this response to “we” or “our” are references to Transpower in its capacity as a grid owner.

Question 7 (using paragraph numbering above)

We do not have a view about how distributed generators will behave without ACOT or how distributed generators may respond to nodal prices in the absence of ACOT.

We understand “grid reliability” in the Authority’s question to mean the ability of the grid to transport sufficient electricity to meet demand. It is important to distinguish that from the need for there to be sufficient offered generation to meet demand. As we have said previously in the context of the transitional congestion charge referred to in the TPM Guidelines, we consider Transpower, primarily as system operator, has sufficient tools available to it to manage grid reliability in the near term without needing the additional support of a transitional congestion charge. We consider the same applies to ACOT. However, we do not have a view on how removing ACOT will impact on generation sufficiency over any term or grid reliability (and additional grid investment to deal with reliability issues) over the longer term.

Question 8

We will invest in the grid and transmission alternatives to manage grid reliability issues as and when required, regardless of the ACOT outcome. These investments may include grid support contracts with distributed generators. The cost of these grid support contracts would be covered by our incentivised expenditure allowances set by the Commerce Commission (baseline or for major projects).

Where proposed expenditure relates to connection assets or alternatives to them, we will engage with our relevant customers to ensure that the right arrangements are in place to provide the level of reliability the customers agree to at their connection locations. Our role is to provide information about options and the performance that can be expected from them. The relevant customers are ultimately responsible to making the price-quality decision. In some cases we expect it will be more appropriate and/or efficient for the customers to enter into support contracts with distributed generators than Transpower.

Question 9(a)

Transpower is required to achieve n-1 reliability on the core grid, under the deterministic limb of the GRS (clause 2(2)(b) of Schedule 12.2 of the Code). Investments for n-1 reliability in respect of non-core grid assets, which includes most connection assets, are not required under the Code. Where n-1 (or even greater) reliability exists in respect of connection assets, it exists for historical reasons or because Transpower has agreed with the relevant customer(s) to provide that level of reliability under an investment contract.

Under clause 12.76 of the Code we are required to publish periodically a grid reliability report that identifies whether the “n-1 criterion” is met at each grid exit point over the next 10 years. The n-1 criterion is not the same thing as the GRS, although the two are somewhat unhelpfully conflated in the Code and benchmark agreement (addressing a failure to meet the n-1 criterion is said to be achieved by meeting the GRS, e.g. clause 12.40(1) of the Code and clause 40.2 of the benchmark agreement). As part of the Authority’s longer-term work plan we would support a review of the Code and benchmark agreements to improve coherence in terms of the interaction between the n-1 criterion and the GRS, and in the reliability-related provisions generally. We consider this review should be timed to align with improved certainty around reliability and resilience requirements associated with electrification.

Clause 40.1 of the benchmark agreement contemplates a connection asset could be the reason for a failure to meet the n-1 criterion, and clause 40.2 (and clause 12.40 of the Code) specifies a process by which Transpower and the relevant customer(s) may agree to upgrade the connection asset if that is the case.

Our latest grid reliability report is part of our latest [Transmission Planning Report](#), published in September. In sections 10.4.5, 11.5.5 and 7.5.2 of the TPR there is a discussion about n-1 criterion compliance at Tauranga, Mangahao and Kaikohe, respectively. The conclusion is that generation from the Kaimai, Mangahao and Ngawha generating stations, respectively, helps meet the n-1 criterion at those GXPs.

Question 9(b)

Each of the sections of the TPR referred to above contains a “What next?” subsection explaining what we intend to do to reinforce supply at the relevant GXP and in what broad timeframe. These plans may have been different in the absence of expected generation from proximate embedded or grid-connected generation.

We have commented briefly above on our obligations under the GRS and benchmark agreements.

We have not been able to verify we (or the system operator) made the quoted comment to Manawa (noting that Manawa’s consultant merely “understands” Transpower made the comment). As noted above, we do not have a view about how distributed generators may respond to nodal prices in the absence of ACOT.

Question 9(c)

We do not think any changes are required to the regulatory regime we operate under to facilitate grid support contracts. We do not have any major concerns about the processes under our Part 4 Commerce Act regulation by which we may receive expenditure allowances for grid support contracts (baseline or for major projects).

Question 9(d)

Please see the “What next?” subsection of the TPR sections referred to above.

At this stage we are not anticipating entering into grid support contracts to reinforce supply at any of the GXPs. The measures anticipated in the TPR are a combination of grid upgrades, grid reconfigurations, special protection schemes and variable line ratings. We will continue to work with the relevant customers to determine what solutions would work best for them and in what timeframe.