

16 December 2022

The Electricity Authority  
Wellington

WholesaleConsultation2022@ea.govt.nz

**Re: Submission on Driving efficient solutions to promote consumer interests through winter 2023.**

Thank you for the opportunity to submit on this paper, and to Transpower for flagging it concerns re maintaining an adequate supply during winter 2023 and winter 2024. What is disappointing is that this should be seen as an issue suddenly upon us.

Worryingly we may see increased upward pressure on peak demands in winter 2023. That is, greater than the 138MW<sup>1</sup> identified for winter 2022. The Transpower paper notes that removal of TPM RCPD incentive has contributed to the peak demand growth over the last 12 months<sup>2</sup>. We suggest this may be worse in 2023 in that the full impact of the TPM changes are yet to be felt. (see below).

What is missing from the Authority's consultation paper is an analysis of the underlying factors leading up to this discussion and the now associated urgency. This goes much deeper than aging slow-start thermal generation and additional intermittent renewables. The Consultation Paper makes a number of valid comments around generation, but this is a narrow analysis. Other factors in the overall equation need to look much closer at the demand side and how this contributes to peak demand. Para 4.38 makes no attempt to explain what may be behind peak demand increasing 1.7% in the year to October 2022 while energy demand growth was 0.2%. Improved understanding of the changes that have taken place will aid in moving forward to find solutions; perhaps for the immediate term, but equally important for the medium to longer term.

**Industry structure**

1. There are structural issues that go back to the turn of the century when distribution was split from retail. For mass-market consumers there is no direct commercial relationship between the distributor and the end consumer. Pricing that may be in place to discourage peak loads are invariably not passed through by retailers, and most mass-market customers do not have a time of use signal.
2. Even when there was a coincidental peak pricing signal as part of the TPM, there was little incentive for EDBs to maintain a ripple control system when Transmission costs are a cost past-through. As a result, we understand ripple control systems only extend to just over half of consumers<sup>3</sup>, and some EDBs are incentivised to offer the load into the Reserve Market rather than necessarily reducing load at peak times
3. Likewise, EDBs have no incentive to control load for high prices unless they have an appropriate contract with a retailer, and even then we expect technology currently installed makes it difficult to differentiate individual customers especially when most EDBs do not own the metering at the ICP.

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<sup>1</sup> System Operator Winter Review Paper, Transpower, November 2022, Page 2.

<sup>2</sup> Ibid, page 4.

<sup>3</sup> [Ripple-Control-of-Hot-Water-in-New-Zealand.pdf \(eeca.govt.nz\)](#), page 4

4. An on-going example is talk, but little action, relating to controlling EV charging loads over peaks.
5. 4.53 mentions poor defined property rights for demand-response and this should be examined closer.

## Market

6. The long-term expectation has been that the Market will deliver additional generation. For 4.5 years now both SRMC and LRMC have been exceeded and we are only starting to see investments really start,
7. There are many reasons impacting this, and detailed analysis around the WEM and its functioning is the subject of another consultation process currently underway. It is our view that changes to market settings are necessary to achieve the change that is required.
8. The Market rules require all generation (>10MW) to be offered into the market, and from a practical point of view all the electrons go into to the mix on the grid. (The exception being on on-site generation). Any contracts for supply, such as a PPA, are commercial virtual supply arrangements and will not supply more electrons than are in the grid overall and not guarantee supply to those with PPA type contracts.
9. Retailers have an obligation to their customers, but likewise that does not guarantee supply from the market pool.
10. For those consumers that are fully hedged (or indeed are on a FPVV arrangement) there is no operational incentive to reduce load in that their costs can be maintained within budget. (There is however a potential arbitrage opportunity cost if they don't reduce load and bank the difference between spot price and hedged value).

## Large customers

11. There are a number of large load customers around the country that are either direct connect to the grid and/or have network supply agreements with EDBs that provides for direct pass-through of transmission costs. With the new TPM and removal of an RCPD charge, the incentive to reduce load over time of system peaks (remembering Transpower peaks coincide with the requirement for the most generation to be on-line) has been greatly diminished and now rely on spot prices (or and administrative intervention) to incentivise load reduction.
12. In NZ Steel's case we continued coincidental peal load control through until the result of the Trustpower led High Court action against the Authority was announced. NZ Steel has submitted in the past "...the expected increase in NZ Steel's load alone at peak times if the peak pricing component of the transmission charge is removed would be 25-30MW on an 'average' day, and could well exceed the 75MW modelled for all New Zealand on a 'bad' day (subject to a very high spot price or other strong signal)"<sup>4</sup>. Spot prices will need to be at consistently higher levels to match the ~\$2000/MWh that came from RCPD. It is widely known that NZ Steel will be paying an additional enforced \$11m pa<sup>5</sup> (375% increase) for transmission charges. This comes with an additional operating flexibility that is not a value proposition for us.

## Other observations

13. 3.5 and 3.6 talk about consumers wanting a high level of reliability. 100% reliability for some of the supply to individual consumers is very important, but most consumers will be willing to compromise eg water heating. The paper mentions ripple control. We suggest further analysis into differentiating load, including lost-load v's shifted load.
14. We reference 4.15 re the SO expressing concern at the outlook for winter 2024. It was only last year that Transpower declined the opportunity to introduce a congestion charge stating they had sufficient tools to

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<sup>4</sup> [BlueScope Steel Letter \(ea.govt.nz\)](#), page 16, para 84

<sup>5</sup> <https://businessdesk.co.nz/article/energy/big-winners-and-losers-in...>

manage issues<sup>6</sup>. While congestion the grid can be different to “operational coordination” the two are closely linked.

Q1. Do you agree that operational coordination performance has become more challenging for the reasons indicated above? If not, what is your view and why?

Yes, but as outlined in this submission further consideration needs to be given to the demand side.

Q2. Do you agree that the factors in paragraphs 4.10 to 4.63 create information challenges or misaligned incentives, and that these make it hard to achieve optimal commitment actions? If not, what is your view and why?

Yes agree.

Q3. Do you agree that it is prudent to examine options to address information and incentive gaps identified above? If not, what is your view and why?

Yes, but it also important to understand how we have reached this stage. This will assist with identifying the best options.

Q4. Do you agree with the proposed evaluation criteria? If not, what is your view and why? Are there other criteria that the Authority should consider?

No. Transpower and the Authority have identified security of supply for winter 2023 and 2024 as an urgent issue. It may be necessary to extend the evaluation criteria. 5.3 states “...any changes are in the long-term interests of consumers...” this does not necessarily align with the urgency identified and protecting the consumers of winter 2023.

Q5. What if any other options should be considered to better manage residual supply risk for Winter 2023?

Work with Transpower to reintroduce a TPM peak demand reduction incentive.

Q6. Do you think it would be beneficial to publish the residual offer information used by the system operator when calculating Grid Warning and Emergency Notices? If not, what is your view and why?

Yes

Q7. Do you think it would be beneficial to provide sensitivity case spot price forecasts in forward schedules, as well as central forecasts? If not, what is your view and why?

Yes

Q8. Do you agree that cross-industry work on improving the quality of intermittent generation forecasts is unlikely to be available for Winter 2023? If not, what is your view and why?

No view expressed

Q9. Do you agree that the system operator should procure an external wind forecast and ask participants to review their offers if there are large discrepancies between the forecast and offers? If not, what is your view and why?

No view expressed

Q10. Do you agree that the availability and use of ‘discretionary’ demand control (such as ripple control not used for instantaneous reserves) should be clarified? If not, what is your view and why?

The queries raised in this section of the consultation paper are mentioned in general terms in our opening comments to this submission. The issues go back to industry structure, which market/commercial forces have only intervened to a limited extent. The phrase “too little, too late” comes to mind. Despite some in the industry in past

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<sup>6</sup> [2021\\_02\\_19\\_Q&A - NZ Steel on TPM TCC decision.pdf \(amazonaws.com\)](#)

years repeatedly calling for more attention to the value of 'ripple control', this was ignored <sup>7</sup>. The EECA paper in 2020 is helpful in understanding the place in demand response of ripple control and issues as to how this can be effective <sup>8</sup>

The action proposed would require an Administrative intervention to gather the information and probably an operational intervention to drop the load. Not ideal for a market driven approach, but probably an important step in covering the MW shortfall.

Q11. Do you agree that work should be undertaken on a new integrated ancillary service for winter 2023 to help manage increased uncertainty in net demand? If not, what is your view and why?

Yes if this is practical in the available time.

Q12. Do you agree that selectively increasing ancillary service cover should be considered as an interim option for Winter 2023? If not, what is your view and why?

No view expressed

Q13. If increased cover from an existing ancillary service at times is pursued further as an option for Winter 2023, what are your views on whether to utilise frequency keeping or instantaneous reserve, and why?

No view expressed

Q14 Do you agree the option of requiring retailers to make compensation payments to customers affected by forced power cuts should not be explored for Winter 2023? If not, what is your view and why?

Not a question relevant to NZ Steel.

Q15 Do you agree that reviewing the default pricing in the Code to apply in energy and reserve shortfalls should not be explored for Winter 2023? If not, what is your view and why?

Depends how many other viable options there are.

Q16 Do you agree that an hours-ahead market should not be explored for possible adoption for Winter 2023? If not, what is your view and why?

Yes.

Q17 Do you agree that mechanisms that procure additional resources outside of the spot market should not be explored further for Winter 2023? If not, what is your view and why?

While we accept there are risks and issues, the over-riding question is will the spot market deliver what is required to keep the lights on? If there is not a very high degree of confidence that it will, then procuring additional resources needs to be considered.

Q18 Do you agree that options A, B, D, and E appear attractive and should be progressed further? If not, why not?

Yes

Q19 Do you agree that options F and G should be assessed further to determine if they are likely to have net benefits? If not, why not?

Yes.

Q20 Do you agree that options C, H, I, J and K should not be progressed further for winter 2023? If not, why not?

We agree J is not practical for 2023, but the other options may need to be considered to meet the expected MW shortfalls.

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<sup>7</sup> [BWL comments on distribution pricing.pages \(ea.govt.nz\)](#)

<sup>8</sup> [Ripple-Control-of-Hot-Water-in-New-Zealand.pdf \(eeca.govt.nz\)](#)

Q21 What if any other matters should be considered when assessing options to better manage residual supply risk for Winter 2023?

The paper makes very little reference to large industrial load. We are aware of at least one off-shore jurisdiction where a contract exists for a large amount of load to be dropped with notice at times of system 'stress'. NZ Steel is open to discussing possibilities that may assist in the NZ setting.

We will be pleased to have an opportunity to expand on or clarify any of the points made in this submission.

Yours sincerely



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