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18 August 2020

Submissions
Electricity Authority
Harbour Tower, Level 7
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WELLINGTON

**By email:** UTS@ea.govt.nz

**Re: Consultation on UTS preliminary decision**

Genesis Energy ("**Genesis**") welcomes the opportunity to submit on *The Authority's preliminary decision on claim of an undesirable trading situation* dated 30 June.

The initial claim required the Authority to investigate thousands of trading periods where an extraordinary fuel oversupply was having an unpredictable impact on physical generation and offers. Genesis wishes to acknowledge the amount of work that has been conducted by the Authority to arrive at this interim decision and we commend the thorough analysis undertaken.

This submission is intended to address specific issues that the Authority has expressed a particular interest in, namely:

(a) whether we agree with the framework for analysis;

(b) whether we agree the appropriate factors have been considered; and

(c) whether we have been impacted by the situation.

## South Island market concentration

Consideration of this matter has brought several issues into sharp relief for Genesis.

We believe the circumstances the Authority has examined were a predictable result from a market as highly concentrated as that for South Island wholesale electricity. Contrary to the persistent claims from some participants, we consider the wholesale market is generally competitive, with healthy rivalry on a North Island and countrywide basis.

However, there clearly remains a discrete issue in the South Island. This was closely considered when the Government mandated the sale of the Tekapo hydro assets from Meridian to Genesis in an effort to stimulate competition. This step was an improvement, but Meridian maintains a dominant position in the South Island.

Genesis believes the situation covered in this interim decision has shown that allowing for such concentration of generation capacity, without appropriate regulatory safeguards, leaves a market vulnerable.

Since the interim decision was published the owners of the Tiwai Point aluminium smelter announced they intend to close the plant, giving 12 months' notice of a termination in their power supply agreement. This time frame would see the power available to the market (subject to alleviation of transmission constraints), from next August. We believe this will exacerbate the issues demonstrated in December 2019, through releasing a further ~5,000 GWh per annum in uncontracted South Island hydro generation to Meridian further adding to the company's 'long' hydro position in the South Island.

We also note that the 'virtual asset swaps' mandated at the time of the physical transfer of the Tekapo A and B assets from Meridian to Genesis, roll off after 2024. If these arrangements conclude without replacement, the dislocation of the South Island and North Island markets will be exacerbated further.

## Carbon impact

Furthermore, the impact of events like those that occurred during December 2019 is likely to be greater with an expected rise in the price of New Zealand emissions units. Increased costs for greenhouse gas abatement are reflected directly in the price at which thermal generation is offered to the market. As thermal generation is often marginal, this increases overall wholesale prices.

Our modelling indicates that hydro generators are likely to increase their discretionary generation offers in line with rising carbon prices.

Coal-fired thermal generation that ran 'unnecessarily' during December 2019, due to available water not being released for generation, would be about $8/MWh more expensive today than when the incident occurred, due to subsequent increases in carbon prices. At $50 per NZU, which is the current price ceiling provided by the ETS via a cost containment reserve, the carbon price component of thermal generation would add an additional ~$25/MWh to the price impact in situations where coal-fired generation at Huntly sets the marginal price.

These costs do not manifest equally across the wholesale market. Increased carbon costs produce windfall gains for participants that are wholly or predominantly renewable generators, resulting in the development of a 'two-tier' market: those suffering under increased costs and those profiting from them. Ultimately these increased costs can be expected to flow through to end consumers.

## Risk management

To assist the Authority in evaluating the situation, this submission addresses several other matters for the its consideration. We are particularly concerned with the generation supply imbalance in the South Island.

One important area in which we have a different view to the Authority is on the risk management options available to participants. While the Authority has in the past stated that it does not believe it is acceptable to manage locational price risk with spot offers, the Code is ambiguous on this. We believe it would be useful if the Authority provided firm guidance on the circumstances under which this approach *is* acceptable.

Genesis also believes the availability of financial transmission rights, for the purposes of integrated generator/retailer risk management, is worthy of the Authority's attention.

## Remedy

If the Authority's interim decision holds, some remedy to the situation will be required.
We have not proposed a solution for the Authority's consideration but look forward to participating in the consultation on the Authority's proposed remedy if one is made available for review.

Whilst the Authority's analysis as set out in the interim decision is adequate for assessing whether a UTS occurred, we believe considerable extra quantitative work will be required to inform any proposed remedy.

Attempting to determine what prices *should* have been retrospectively is a fraught exercise. The analysis by Electric Kiwi/Haast Energy Trading that informed the initial complaint illustrated the problem but, in our view, is insufficiently sophisticated to inform an economic intervention. We believe any proposed remedy should take careful account of human behaviour and the fact that decision-makers acting in real time do not have perfect information. Genesis considers that any proposed remedy should focus on attempting to arrive at what a workably competitive outcome would have been, rather than resetting prices to reflect the Authority's view of economic costs.

Our detailed feedback is set out below. If you have any questions about this submission, please contact Matt Ritchie on 027 204 3864, or by email matt.ritchie@genesisenergy.co.nz.

Yours faithfully

Matt Ritchie
**Senior Advisor, Regulatory Affairs and Government Relations**

## Summary

1. Genesis agrees with the tests the Authority has applied to determine whether a UTS had occurred. Namely, whether:

   (a) spot market outcomes reflected changes in underlying supply and demand conditions; and

   (b) there was a material change in the futures market that may indicate a loss of confidence in the forward market.

2. Genesis agrees that the analytical framework the Authority has applied is sound for the purposes of evaluating whether the circumstances in question constituted a UTS. We have not tested the Authority's analysis in detail and reserve judgement on whether the circumstances constituted a UTS. We expect this consultation will bring some clarity, through detailed feedback from those participants closest to the circumstances in question.

3. If a remedy is to be required that involves resetting of prices, we would support the Authority commissioning a quantitative peer review of the data and analysis and making that available to interested parties.

4. Genesis has been impacted by the situation on both the 'buy' and 'sell' sides of the market. As the decision notes, Genesis's thermal plant at Huntly generated at higher volumes than we would have anticipated given the underlying supply and demand conditions during the period under examination.

5. We caution against applying perfect knowledge retrospectively to the operation of a dynamic market to assess that market's effectiveness. Any market assessed in this manner is highly vulnerable to perceptions of failure or manipulation, particularly when the outcome is the result of decisions made in extraordinary circumstances in real time, as was the case during the South Island flood event of late 2019.

6. Any remedy proposed by the Authority should have careful regard to any distortionary signals it may send concerning expectations around future offering behaviour.

7. Meridian's behaviour and the resulting market impact is a predictable outcome of a situation in which one participant has significant market power. The circumstances of December 2019 were not unprecedented, as Meridian acknowledges[1].

8. There is ambiguity surrounding what constitutes acceptable risk management behaviour in the wholesale market currently, and potential market failure. The Authority's preliminary decision exacerbates this.

9. Changing market dynamics are likely to make situations such as that observed during December 2019 more common, and their impacts more severe.

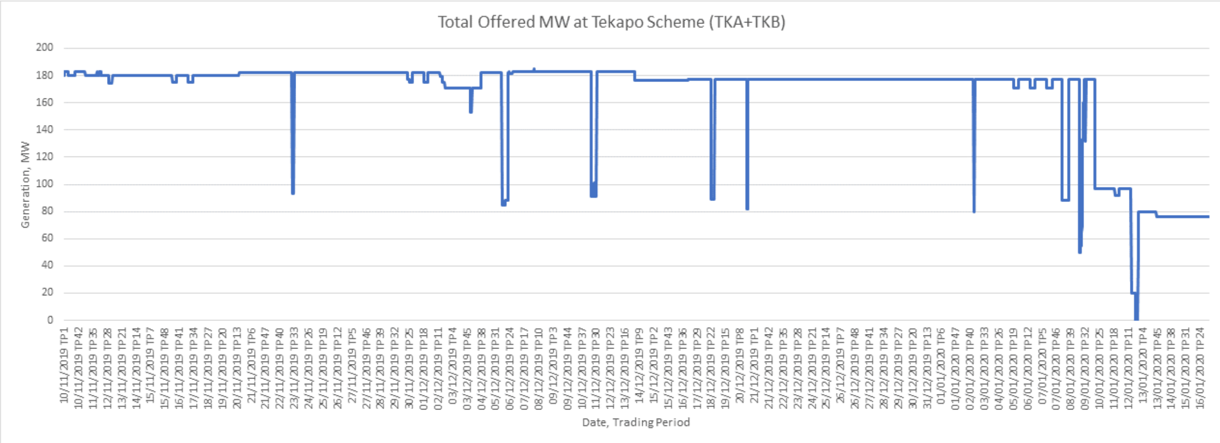
### Distinction between short term departure from economic cost and UTS

[1] Interim decision, at 15.1.

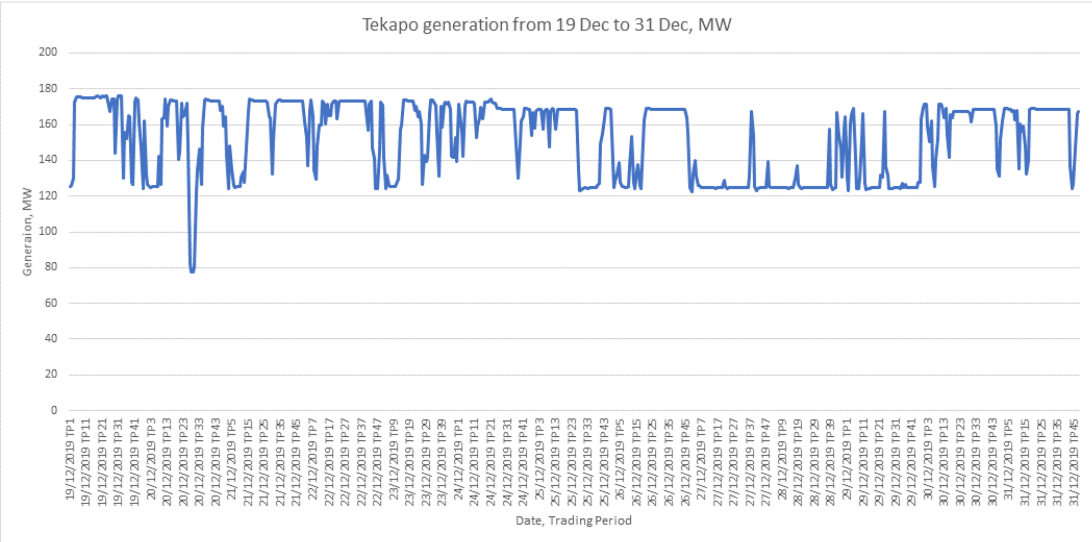
10. Genesis acknowledges the challenge facing the Authority in this and other UTS investigations. A balance must be struck between accepting that outcomes will not always be predictable when allowing for the market to arrive at prices, whilst ensuring that participants can maintain confidence in the market and outcomes are efficient in the long term.

11. Genesis agrees that our behaviour over the period in question, whilst potentially not completely in line with what the Authority may have expected to see under the circumstances, could not be considered to undermine confidence in the market and therefore did not meet the test for constituting a UTS.

12. Tekapo was offered at its practical maximum over the period in question, and generally offered fully (180 MW) subject to planned outages or operational constraints.




13. Where the plant was not fully dispatched this was either due to must-run generation holding Tekapo out of the market, planned outages and canal inspections, or water value calculations resulting in traders pricing in opportunity cost.




14. In any case, Genesis is a 'price taker' in the South Island the vast majority of the time. Our power stations generally set South Island nodal prices less than 10% of the time.

Authority calculations for the Market Development Advisory Group's work on updating High Standard of Trading Conduct rules indicate Genesis is never pivotal in the South Island as a whole. Genesis is very seldom pivotal on a nodal basis in the South Island.

15. Tekapo was pivotal for about 10% of the time over the period in question. Generation was priced at about $19/MWh on average during these periods, and often much lower.

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### The December UTS was a predictable outcome of market concentration

16. Meridian owns the vast majority of generation capacity on the South Island. This has been the case since the company was established in 1999 and was recognised in a major sector-wide review of the electricity system in 2009, which found that the generation portfolios of the (then) State Owned Enterprise energy companies were not well balanced.

17. The 2009 Ministerial Review agreed with the general view among international experts that restructuring of generation usually has the best potential to strengthen competition.

> *This is because it can deal with market power issues at their source. Furthermore, the competitive benefits can be realised relatively quickly. Unlike regulatory options, the change is a one-off event, and ongoing interventions and monitoring are not required.* [2]

18. As a result the Government mandated that the Tekapo A and B generating units (combined capacity 180 MW) atop the Waitaki Power Scheme be sold by Meridian to Genesis. This transaction was completed in mid-2011. At the same time, virtual asset swaps were put in place as a means of 'evening up' participants' North Island and South Island wholesale volume by contract.

19. These measures materially improved South Island generation competition. However, as the Authority's analysis shows Meridian remains gross pivotal on the South Island

[2] https://images.tvnz.co.nz/tvnz_images/news2009/politics-generic/electricity-market-review-vol1.pdf, at 116

the majority of the time. This will be exacerbated by the announced closure of the Tiwai Point aluminium smelter, and the expiry of the current virtual asset swaps from 2024.

| Proportion of time supplier is gross pivotal at an island level | | | | | |
|---|---|---|---|---|---|
| **North Island** | **2010** | **2018** | **South Island** | **2010** | **2018** |
| Mercury | 37% | 33% | Meridian | 100% | 93% |
| Genesis | 52% | 33% | Contact | 17% | 8% |
| Contact | 36% | 32% | Genesis | 0% | 0% |
| Meridian | 0% | 0% | Mercury | 0% | 0% |
| **North Island** | **57%** | **42%** | **South Island** | **100%** | **93%** |

[3]

20. As the Authority's Market Development Advisory Group notes:

> *While a gross but not net pivotal supplier may not profit from raising prices in the short term, it may have incentives to raise prices (or create greater volatility) to increase hedge and/or retail returns over the longer term.* [4]

21. Therefore, it follows that Meridian's dominant position on the South Island provides the incentive to raise prices over the long term. It is economically rational to act on this incentive.

22. While we note that Meridian's behaviour is rational, and potentially within the rules, it does not represent the sort of market conduct that is acceptable to consumers or other participants.

23. We agree with the Authority's interim conclusion that Meridian, through the structure of its offers, was intentionally withholding supply to manage its locational price risk.

### The regulatory position on managing locational risk is ambiguous

24. The Authority cites Meridian's use of offers to manage its locational price risk across the HVDC as a factor in determining the period 3 December to 18 December constituted a UTS[5].

25. Meridian has previously been advised that the Authority disapproves of structuring offers to manage locational price risk, notably in relation to the 2 June 2016 high price event and associated High Standard of Trading Conduct (**"HSOTC"**) investigation[6]. Specifically, Authority chair Dr Brent Layton notified Meridian in writing that:

> *…the Board warns Meridian that it does not expect a repeat of Meridian's trading conduct on 2 June 2016 in the future and Meridian's*

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[3] High Standard of Trading conduct MDAG discussion paper: https://ea.govt.nz/dmsdocument/26404-high-standard-of-trading-conduct-mdag-discussion-paper, fig. 2
[4] Ibid. p19
[5] Interim decision, at 2.9 (c) and throughout
[6] Electricity Authority decision on alleged 2 June 2016 breach of Code clause 13.5A(1) by Meridian Energy Limited https://www.ea.govt.nz/dmsdocument/22114-4-may-2017-meridian-energy-limited

*performance in that regard will be closely monitored. Any further non-compliance will almost certainly result in a higher-level intervention.*[7]

26. Genesis considers that, while Meridian (and the market at large) could be considered to have been reasonably notified of the Authority's position on the use of offers to manage basis risk, it would be preferable to govern participants' actions through 'black letter' regulation rather than informal instructions.

27. This is particularly true since about 24 months elapsed between the June 2016 incident and the December UTS, in which time rules could have been introduced to expressly govern this behaviour.

28. Genesis accepts that the HSOTC rules are under review, and that it is expected that updated provisions will address the issue of participants' management of locational price risk. However, that is of little assistance to Meridian (or other participants) in this instance.

29. The ambiguity around the formal regulatory position on management of locational price risk is exacerbated by the Authority's treatment of Meridian's structuring of offers to prevent the Aviemore-Benmore ("**AVI_BEN**") circuits from binding after the Islington Livingston circuit was lost due to flooding:

*…the Authority's view is that managing the circuit between Aviemore and Benmore in a conservative way was appropriate given the particular set of circumstances Meridian faced. In particular, the flood during December was a significant event that Meridian had to manage within its resource consent conditions. Block dispatch is an important part of this management.*[8]

30. The Authority's position could thus be summarised as: "it is unacceptable to structure offers to manage transmission constraints, except when the Authority determines it is acceptable, which will be made clear ex-post". It should not be controversial to state that this is not a workable standard in practice.

31. Ultimately, Genesis infers from the Authority's position in the interim decision that it is acceptable to structure offers to manage constraints, but not when a party is spilling. This appears to be particularly true around the HVDC given that section of the transmission network's significance to the national market.

### Availability of risk management products

32. The Authority states that structuring offers to manage the AVI_BEN constraint is acceptable in part because there is no FTR available between the Aviemore and Benmore nodes. This distinguishes the AVI_BEN risk from inter-island risk, for which FTRs are available, theoretically.

33. However, in Genesis's experience the existence of FTRs does not guarantee their availability at prices that make them an efficient risk management option in real time.

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[7] 8 May 2017 – Letter from Chair to Meridian Energy re: trading conduct on 2 June 2016
https://www.ea.govt.nz/dmsdocument/22116-8-may-2017-letter-from-chair-to-meridian-energy-re-trading-conduct-on-2-june-2016

[8] Interim decision, at 13.13

34. This is particularly the case where unpredictable events are occurring at short notice, as was the case during the December 2019 flooding event.

35. Recent auctions have seen FTRs purchased in considerable volumes by participants who do not face locational price risk (by virtue of not owning generation), seemingly as a speculative profit-oriented play.

36. The Authority has previously stated it believes this behaviour may be beneficial through providing liquidity in the market[9]. Genesis disagrees with this assessment. Simply, this behaviour reduces the availability of FTRs to those who need them.

37. In our experience aggressive accumulation of FTRs by speculators directly impacts the ability of integrated generator/retailers to manage their risk and can leave the structure of offers as the only economically rational option. This situation may warrant examination by the Authority.

38. If an investigation reveals that FTRs, expressly designed as a risk management product, are being exploited for private benefit, to the detriment of efficient risk management by electricity market participants, Genesis considers this may constitute a breach of the UTS provisions set out in clause 5.1(2)(c) of the Code (unwarranted speculation or an undesirable practice). It is likely that an inability to manage risk due to the speculative behaviour of a trading participant could threaten confidence in, or the integrity of, the wholesale market. The risk of regulatory scrutiny and censure only makes this issue more acute and more potentially damaging to perceptions of the integrity of the market.

### Changing market dynamics are likely to make similar situations more common and more severe

39. Genesis considers that it is crucial that this matter is settled quickly and in a manner that provides clear direction to participants, Meridian in particular, regarding appropriate trading behaviour during hydro spilling situations.

40. As set out at p19 above, Meridian is in an extremely dominant position in the South Island generation market. This is true even accounting for the substantial volume of Manapouri generation contracted by the Tiwai Point aluminium smelter.

41. On 9 July, the smelter's majority owners Rio Tinto announced their intention to cancel their electricity contract with Meridian following the obligatory 12-month wind down period, and close the smelter[10].

42. This will result in up to 5,000 GWh per year of additional generation becoming available for Meridian to trade through the wholesale market or under contract as it sees fit, subject to the relief of transmission constraints (initially in the lower South Island). This may not eventuate if another load customer of similar size to the smelter establishes itself in Southland, which appears unlikely.

43. As a consequence, Meridian will go from having available South Island volume equivalent to 83% of South Island demand, to 111% by spring next year.

[9] Post-implementation review of the FTR market https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2019-2020/post-implementation-review-of-the-ftr-market/
[10] https://www.nzx.com/announcements/355975

44. Accordingly, Genesis expects that the outcome of this UTS process in the first instance provides some safeguard against the exercise of unfettered market power by pivotal generators.

45. We urge the Authority to provide clarity on the principles participants should apply when pricing generation during spilling events. Genesis does not accept the complainants' calculation of $0 MWh plus an arbitrary figure for operational costs is sufficiently sophisticated. It is certainly not an appropriate standard to apply ex-post in a dynamic market.

46. Longer term, more enduring solutions may be required. As at p18 above, if the level of South Island market concentration was considered inappropriate *before* the Tekapo scheme was transferred from Meridian's ownership then a 572 MW increase in Meridian's South Island capacity only exacerbates this.

47. Furthermore, the conclusion of the virtual asset swap agreements from 2024 onwards releases additional uncontracted volume to Meridian.

### Carbon impact

48. Increasing carbon prices will exacerbate the impact of future circumstances like those observed in December 2019.

49. As it stands, an additional $1 on the price of carbon ("**NZU**") equates to an additional $1/MWh to the cost of running one of the Huntly Rankine units on coal.

50. During the period in question NZUs were priced at just below $25. However, prices have since risen sharply in response to changes to the New Zealand Emissions Trading Scheme.

51. As a result, if the circumstances of December 2019 were repeated today, all else being equal wholesale prices during trading periods when Huntly Rankine units set the marginal price would be about $8/MWh higher than they were.

52. At $50 per NZU, which is the current price ceiling provided by the ETS via a cost containment reserve, the carbon price component of thermal generation would add an additional ~$25/MWh to the price impact in situations where coal-fired generation at Huntly sets the marginal price.

53. Whatever the driver of increased marginal prices, the consumer can ultimately be expected to bear this cost.

54. These costs do not manifest equally across the wholesale market. Increased carbon costs produce windfall gains for electricity generators that are wholly or predominantly renewable generators, resulting in the development of a 'two-tier' market: those suffering under increased costs (Genesis, Contact and the smaller independent retailers) and those profiting from them (the predominantly hydro and geothermal generators such as Mercury and Meridian).

55. Wholesale electricity prices are a function of hydrology, thermal fuel costs, carbon pricing and perceptions of seasonal and dry-year risks. In a plentiful fuel market, renewable (hydro) generators price their generation to the point where thermal generators turn off, and in a market where fuel is scarce, hydro generators

price to the point that thermal generation (provided by Genesis's Rankine Units at Huntly Power Station) turn on.

56. Our modelling indicates that hydro generators are likely to increase their discretionary generation offers in line with rising carbon prices to maximise their profits. This results in higher overall wholesale electricity prices, including when thermal plant is not marginal.

57. Increased carbon prices exacerbate the impact of situations like those observed in December 2019 by increasing the price pivotal generators could raise their offers to and increasing the price/cost of 'unnecessary' thermal that runs while hydro is being held back. This increases the benefit to the hydro generator while shifting more costs to purchasers (and, ultimately, consumers).