

IN THE COURT OF APPEAL OF NEW ZEALAND

I TE KŌTI PĪRA O AOTEAROA

**CA364/2022
[2023] NZCA 275**

BETWEEN	NOVA ENERGY LIMITED Appellant
AND	ELECTRICITY AUTHORITY First Respondent
AND	MERIDIAN ENERGY LIMITED Second Respondent

Hearing: 19-20 April 2023

Court: French, Miller and Katz JJ

Counsel: M N Dunning KC and J A Tocher for Appellant
D A Laurenson KC, J H Stevens and L J Hardcastle for First Respondent
J D Every-Palmer KC and T Mijatov for Second Respondent
T D Smith for Transpower as Intervenor

Judgment: 3 July 2023 at 11.00 am

JUDGMENT OF THE COURT

- A The appeal is dismissed.**
- B Nova Energy Ltd must pay costs as set out at [57].**
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REASONS OF THE COURT

(Given by Miller J)

TABLE OF CONTENTS

Introduction	[1]
Nova Energy	[12]
The Authority’s rationale	[15]
The statutory framework for decision	[24]
The Code	[30]
The grounds of judicial review	[31]
Illegality	[34]
Irrationality	[38]
Failure to undertake cost-benefit analysis of net AMD for co-generation	[53]
Disposition	[55]

Introduction

[1] Transpower operates the national electricity grid, which transmits electricity in bulk around the country, connecting generation plants to distribution networks through which it is transmitted to consumers. The costs of operating the national grid are around \$800M a year. They are recovered from users of electricity under a transmission pricing methodology (TPM) that Transpower must develop in accordance with guidelines set by the Electricity Authority | Te Mana Hiko (the Authority) and given effect in the Electricity Industry Participation Code (the Code).¹

[2] In a 2020 decision the Authority developed new guidelines (the 2020 Guidelines) which have now been implemented in a TPM which took effect on 1 April 2023.

[3] The 2020 Guidelines effected substantial change in transmission pricing. The Authority had decided that the existing TPM was no longer fit for purpose because it distorted the cost of transmission, distributed those costs in a way which did not encourage efficient investment in the electricity system, and required that the costs of

¹ Under the Electricity Industry Act 2010, s 32; and the Electricity Industry Participation Code 2010, part 12.

the high voltage direct current link across Cook Strait must be borne by South Island generation notwithstanding that all users benefit from its output.

[4] The Authority instead adopted a policy of recovering costs from those who benefit from transmission investments. There are three components:

- (a) Connection charges are payable by generators, regional lines companies or industrial users who connect directly to the grid. The charges recover the costs of Transpower connection assets needed to connect these users to the grid.
- (b) Benefit-based charges cover grid investments made from July 2019. They are payable by those who benefit from such investments.
- (c) A “residual charge” recovers costs not allocated to specific transmission investments (such as Transpower’s head office costs) and the remaining costs of all other historical transmission investments.

[5] Initially the residual charge will recover a large proportion — about 56 per cent — of the total costs of the grid, but that proportion is projected to decline to about 20 per cent by 2047 as older investments depreciate and new ones are recovered through all benefit-based charges.²

[6] The Authority decided that the residual charge should be allocated to all designated Transpower transmission customers — those who connect directly to the grid — to the extent that they are load customers; that is to say, the charge would be paid by the demand side rather than the supply side of the electricity industry. This was a major change in transmission pricing methodology.³

[7] Some generation plants are operated by industrial users, or located within distribution networks, that are connected to the grid. Generation capacity which is

² At the hearing in the High Court the proportion of costs to be recovered by the residual charge was 70 per cent. Transpower has since revised the methodology to allocate more of those costs to benefit-based charges.

³ The former methodology is summarised in *Manawa Energy Ltd v Electricity Authority* [2022] NZHC 1444 [Judgment under appeal] at [8]–[10].

connected within the network of a Transpower transmission customer is said to be “distributed”, or “embedded”. From Transpower’s perspective such generation is “behind the meter”, meaning that it is on the transmission customer’s side of its point of connection to the grid. Transpower measures outflow and inflow at the point of connection.

[8] Electricity generated by distributed or embedded generation plants operated by or connected to a transmission customer reduces that transmission customer’s demand on the grid and may mitigate the need for investment in the grid.

[9] The Authority decided that the residual charge would be recovered in proportion to each Transpower connection customer’s historical gross anytime maximum demand (AMD), meaning the highest value of gross load in the relevant year. The highest value of gross load comprises:

- (a) the net quantity of electricity flow from the grid at the point of connection; plus
- (b) Transpower’s reasonable estimate of concurrent generation behind the designated transmission customer’s point of connection.

So the residual charge is based on a measure of gross demand which includes demand met by distributed or embedded generation behind the point of connection.

[10] That specific decision is the subject of this appeal, brought by Nova Energy after it failed in the High Court to persuade Palmer J that the decision was unlawful or unreasonable, and so susceptible to judicial review.⁴ Other features of the 2020 Guidelines and the subsequently implemented TPM are not contentious. Reference should be made to the judgment under appeal for a fuller account. Some issues decided by Palmer J are not now in dispute, and some parties who appeared before him have not participated in this appeal. The appeal focuses on the treatment of co-generation plants operated by Nova.

⁴ Judgment under appeal, above n 3, at [141].

[11] Since the High Court hearing in late 2021, the Authority has undertaken further consultation about the proposed TPM. Nova participated in that process. The Authority then decided to incorporate the new TPM into the Code, which then took effect on 1 April 2023.

Nova Energy

[12] Nova is New Zealand's largest operator of co-generation plants. Its plants generate steam, which is used for industrial purposes, and electricity, which is exported to the grid and sold in competition with other generators. Nova is particularly concerned with its Taranaki plants located at Whareroa, Kapuni and Edgumbe. The first two of these are directly connected to the grid and the third is embedded in the local distribution network.

[13] The Whareroa and Kapuni plants supply steam and electricity to co-located dairy plants and a gas treatment plant. At each of these sites, electricity production is a function of demand for steam; boilers and turbines do not operate independently. The electricity generated exceeds site demand for it.⁵ The surplus electricity is exported to the grid. To give a sense of scale and proportion, the Whareroa site consumed 142 GWh of electricity in 2020 and exported 178 GWh.⁶ Because the electricity generated exceeds on-site demand, neither site places any demand load on the grid, except for occasional periods when the generation plant is shut down for maintenance.

[14] Nova's complaint says that because it places almost no demand on the grid it is in substance no different from major directly-connected generators with which it competes to sell electricity. It says that these generators — Contact Energy, Mercury, Meridian, and Trustpower — do not pay the residual charge. Nova expects that it will be required to pay a residual charge of about \$1.5M annually for the two plants. It is said that this has a major impact on their viability. Nova further says that its electricity production is driven by the need to generate steam and not by the market price of

⁵ This is not true of the Edgumbe plant.

⁶ To put this in context, MBIE has calculated that New Zealand's net electricity generation in 2020 was 43,174 GWh.

electricity. That being so, it says, no question arises of it exploiting electricity generation to avoid transmission charges and shift costs to other grid customers.

The Authority's rationale

[15] The Authority's decision to levy a residual charge and recover it in this way followed more than a decade of consultation about transmission pricing. The process is summarised in the judgment under appeal.⁷ We need not rehearse it, because Nova does not ask us to intervene in the core decisions to adopt the connection, benefit and residual charges methodology, nor does it seek judicial review on process grounds. We can go directly to the rationale for allocating the residual charge on a gross demand basis.

[16] The decision under review was made in the 2020 Guidelines. The Authority acknowledged that a number of submitters had sought a net load calculation, arguing that it was both efficient and consistent with the philosophy that those who benefit should pay. The Authority responded in their 2020 Decision paper that:⁸

- 10.34 We acknowledge the residual charge is set on a different basis to the benefit-based charge. This is because these two charges have different purposes which in turn have prompted different rules on allocating and updating them (to align with desired incentives):
- (a) the benefit-based charge reflects the benefit a customer gains from an investment. If a load customer has generation behind its point of connection, it is likely to receive a lower benefit from new grid investment and this is reflected in a net measure
 - (b) the residual charge is not intended to reflect a customer's benefit from or burden on the transmission network. Rather, it is to recover remaining revenues in the least distorting manner. In the long-term, it will recover unallocated overheads and costs, for example, Transpower's Human Resources system costs: these costs are not related to grid use and not related to the benefits customers receive from particular grid investments. Residual charges are allocated on a proxy for customers' size and so their ability to pay (much like the way the tax system works). This is not reduced by the presence of generation behind the point of connection

⁷ Judgment under appeal, above n 3, at [25].

⁸ Footnotes omitted.

- (c) allocation of the residual charge based on net demand would risk creating an artificial incentive for investment in distributed generation, in advance of the residual allocator being updated (and the shorter the lag with which updating occurs, the worse this inefficient incentive would be). This risk does not present itself in relation to the (largely fixed) benefit-based charge — parties face the cost and benefits of either the grid investment or of their decisions to avoid or minimise grid investment.
- 10.35 Some stakeholders submitted that a gross demand measure for the residual charge does not recognise the benefits of distributed generation (for example, NZ Steel and NZ Wind Energy Association) or that it shields the transmission grid from any competition by creating an environment that disadvantages transmission alternatives (Pioneer).
- 10.36 The Authority acknowledges that distributed generation has many benefits for consumers and plays a crucial role in energy markets, including as an alternative to transmission. Distributed generation can be rewarded in various ways (for example, through prices realised in the energy market or from entering a grid support contract with Transpower). In our view, however, it is generally appropriate for generation behind the customer’s point of connection to reduce a load customer’s liability for the benefit-based charge for future investments, but not for the residual charge (for the reasons explained above). We would observe that over time, we expect the share of total grid costs recovered through the benefit-based charge to materially increase as the share of the residual charge reduces ...
- 10.37 Some submitters argued for allocation based on net AMD on the basis that consumers with embedded co-generation and associated load never expose the grid to their full gross demand. One potential option would be to treat co-generation as a special case (that is, net off co-generation, but not other embedded generation). The Authority’s view is that gross AMD is a proxy for customers’ size and ability to pay. It is a better measure of size and ability to pay than net demand. In principle, the fact that some customers manage their use of the grid using embedded co-generation should not have the effect of reducing their allocation of the residual charge.

[17] The notion that residual charges should be allocated by reference to a customer’s size and ability to pay was drawn from an Issues Paper published in 2019. The authority reasoned that competitive markets provide a useful guide as to how best to recover unallocated costs:⁹

D.80 ... In such markets, costs that are additional to short run marginal cost are recovered by having higher charges for those customers who are prepared to pay more than SRMC [short run marginal cost] (ie, whose use is not much affected by paying more than SRMC). Moreover,

⁹ Footnote omitted.

since nodal prices and the benefit-based charge are sufficient to ensure efficient use of and investment in the grid, the objective in recovering additional costs is to alter users' behaviour as little as practicable.

- D.81 In principle, this suggests levying charges on those who are least price sensitive (that is, whose behaviour is least affected by the charges). However, given the practical difficulties involved, such charges are typically levied on the basis of some measure of size and/or ability to pay.

[18] A member of the Authority, Ms Lana Stockman, swore an affidavit in this proceeding to record the Authority's reasoning. She explained why the decision was taken to allocate the residual charge to the demand side:¹⁰

- 11.6 Another matter considered at length was whether the residual charge should apply only to customers to the extent that they were load customers (as we ultimately decided) or to both load and generation (or indeed, wholly to generation or only to existing generators as some submitters suggested). My initial thinking was that the residual charge should be spread far and wide across both load and generation because they all gain economic benefit from a grid connection. While this was my starting position and while I considered all submissions on this matter, I was ultimately unable to support this approach. The analysis showed that any residual charge on generators would likely be passed on to load in the form of higher energy prices as new generators delayed entering until the prices they could achieve would cover their residual charge. (This was distinct from the position for the benefit-based charge, where participants would only be charged in proportion to benefits they received and charges would vary with location, making it harder for generators to simply pass that cost straight through to load customers as they might with a uniform charge, due to competition in the market). Given the interests at play, we considered that this was another area where inevitably we would simply have to make the best decision we could based on the information provided to us – we decided that the residual charge should apply to load only to reduce or avoid inefficiency.

[19] She stated that the Authority sought to allocate the residual charge in a way which would be "as non-distortionary as possible" because the residual charge was not intended to influence grid use and investment. For that reason, the decision was taken to base allocation on historical demand:¹¹

- 11.8 Specifically we sought to base the allocation on historical AMD (where AMD is the highest amount of electricity used by a customer in any one trading period in a year), so that participants would not be able to change their behaviour to proactively avoid charges and shift them on to others as we had observed this behaviour with the current

¹⁰ Footnotes omitted.

¹¹ Footnotes omitted.

TPM. While we considered arguments, including those made by NZ Steel, that such an approach penalises customers whose demands on the grid are proportionately lower at peak times, we considered that our approach would better achieve the aim of recovering costs in the least distortionary manner possible, with reduced demand on the grid instead recognised through wholesale electricity prices and through the benefit-based charge. Ultimately, we recognised that there was never going to be one perfect allocator, with customers having different characteristics and therefore preferring different approaches; however, we considered that our reasons for adopting historical AMD still held.

[20] Turning to the decision whether to use gross or net load, she recognised that a gross load approach involves the load customer's net demand being "grossed up" by adding to their grid take-off any electricity supplied by behind-the-meter generation. She explained that:¹²

11.11 [i]t is important to understand that (despite the way gross load is measured) the intention of the gross approach is not to levy the residual charge on distributed generation based on its injection of electricity; rather, the intention is to levy the charge on the load customer in such a way that the presence or absence of distributed generation makes no difference to the measure of demand (and to the magnitude of the residual charge). Again, this was because we were looking to recover costs in a non-distortionary way.

[21] She acknowledged that the Authority's thinking on this issue had changed during the consultation process. In 2018, staff had proposed a net demand basis of recovery for directly-connected industrial customers. However, they changed their view, recommending in 2019 that gross load would better reflect customer size and "provide better assurance that load customers will not be encouraged to invest in distributed generation or batteries just to avoid charges". It was no longer thought that a gross load approach would cause customers to disconnect (so avoiding all charges). The Authority adopted that recommendation.¹³

11.14 The Board considered these matters in depth. We thought that in practice it would be difficult to determine the extent to which actions are taken to avoid a charge and actions taken for commercial reasons and we should look to take a consistent approach rather than distinguish on this basis. We therefore ultimately agreed that the 2019 Issues Paper propose that the residual charge allocation be based on gross AMD. I would note that for me this was one of the more difficult decisions to be made as a decision-maker. I very much understood

¹² Emphasis omitted.

¹³ Footnote omitted.

the views of grid connected customers, and the potential impacts on some of them, noting that our statutory objective was to consider the long-term benefits of consumers. As discussed above, the Board's thinking on this particular issue evolved over time, and was informed by both staff analysis and stakeholder submissions. But as a decision-maker it is my role to make a decision in accordance with our statutory objective and while grid connected industrial load are consumers, there are also other consumers to be considered. ...

[22] She added that in response to submissions from Nova and Fonterra, the Authority had considered whether to treat co-generation as a special case but decided against it:¹⁴

11.17 ... we specifically considered whether co-generation should be treated as a special case, able to be netted off where other distributed generation could not be. However, our view was that there was insufficient evidence to justify such special treatment given the purpose of the residual charge to recover charges in a non-distortionary way (and noting that the advantages of co-generation e.g. reduced demand on the grid would be recognised in other ways, such as lower electricity costs and benefit-based charges). In addition, we thought that, in principle, the fact that some customers managed their use of the grid using embedded co-generation should not have the effect of reducing their allocation of the residual charge. Such parties would after all remain connected to the grid. Essentially, we wished to create a position in which the presence of the generation made no difference to the size of the residual charge payable in respect of the load customer – this would then mean that co-generation and similar arrangements would only be built where there are advantages other than simply avoiding transmission charges to justify the cost of doing so.

11.18 The Authority was also concerned that if the residual charge was not applied to generators with embedded load, that would potentially incentivise parties to change their connection arrangements (e.g. by encouraging load customers to embed behind generation rather than connecting to the grid directly) simply to avoid transmission charges even where this was not efficient (which would in turn increase transmission charges for other customers). I note that the Authority does not agree with assertions that its approach would distort competition by subsidising non-embedded load. Rather, we considered the opposite to be the case – if we did not impose residual charges on embedded load, then those customers choosing to embed behind generation would avoid charges and essentially be subsidised by other customers (noting that we assumed that the residual charges would be passed through to the relevant load customer, since without their presence the generator would not have incurred charges).

¹⁴ Footnote omitted.

[23] She observed that the Guidelines also provide for a cap on any existing load customer's charges and permit prudent discounts, which should protect against the risk that a transmission customer might disconnect rather than pay transmission charges. She had seen no compelling evidence that generation supplies might reduce as a result of the new methodology and, specifically, she expected that co-generation would create efficiencies and cost savings for their owners beyond merely avoiding transmission charges. She concluded that:

11.21 [a]s with almost every aspect of the proposed TPM, we knew that whichever decision we made would be contrary to some party or parties' interests. We therefore made the best decision we could in light of our statutory objective and the submissions we received.

The statutory framework for decision

[24] The judgment under appeal contains a concise summary of the recent history of electricity regulation.¹⁵ It explains how regulatory responsibilities are allocated between the Authority and the Commerce Commission | Te Komihana Tauhokohoko. We adopt what is said there.

[25] The Authority is a Crown entity established under the Electricity Industry Act 2010 (the Act). Its main objective is set out in s 15(1):

- (1) The main objective of the Authority is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.

[26] Its functions are set out in s 16(1):

The Authority's functions are as follows:

- (a) to maintain a register of industry participants in accordance with subpart 2, and to exempt individual industry participants from the obligation to be registered:
- (b) to make and administer the Electricity Industry Participation Code in accordance with subpart 3:
- (c) to monitor compliance with the Act, the regulations, and the Code, and to exempt individual industry participants from the obligation to comply with the Code or specific provisions of the Code:

¹⁵ Judgment under appeal, above n 3, at [5]–[8].

- (d) to investigate and enforce compliance with this Part, Part 4, the regulations, and the Code ... :
- (e) to investigate and enforce compliance with Part 3 ... :
- (f) to undertake market-facilitation measures (for example, providing education, guidelines, information, and model arrangements), and to monitor the operation and effectiveness of market facilitation measures:
- (g) to undertake industry and market monitoring, and carry out and make publicly available reviews, studies, and inquiries into any matter relating to the electricity industry:
- (h) to contract for market operation services ... and system operator services:
- (i) to promote to consumers the benefits of comparing and switching retailers:
- (ia) to undertake measures aimed at protecting the interests of domestic consumers and small business consumers in relation to the supply of electricity to those consumers:
- (j) to perform any other specific functions imposed on it under this or any other Act.

[27] It will be seen that one of those functions is the making and administering of the Electricity Industry Participation Code. Industry participants must register with the Authority and comply with the Code.¹⁶ Under s 32(1) of the Act, the Code may contain any provisions that are consistent with the Authority's objective and necessary or desirable to promote any or all of its listed objectives:

- (1) The Code may contain any provisions that are consistent with the objectives of the Authority and are necessary or desirable to promote any or all of the following:
 - (a) competition in the electricity industry:
 - (b) the reliable supply of electricity to consumers:
 - (c) the efficient operation of the electricity industry:
 - (d) the protection of the interests of domestic consumers and small business consumers in relation to the supply of electricity to those consumers:
 - (e) the performance by the Authority of its functions:

¹⁶ Electricity Industry Act, s 9.

- (f) any other matter specifically referred to in this Act as a matter for inclusion in the Code.

[28] The initial contents of the Code were provided for in s 34 of the Act. The decision under review was made as part of an amendment to the Code. Amendments are provided for in s 38:

- (1) The Authority may amend the Code at any time, subject to section 39 of this Act and section 54V of the Commerce Act 1986.
- (2) An amendment may be an addition, an omission, a substitution, or a complete replacement.
- ...

[29] There is provision in s 39 for consultation on proposed amendments:

- (1) Before amending the Code, the Authority must—
 - (a) publicise a draft of the proposed amendment; and
 - (b) prepare and publicise a regulatory statement; and
 - (c) consult on the proposed amendment and the regulatory statement.
- (2) The regulatory statement required for a proposed amendment to the Code must include the following:
 - (a) a statement of the objectives of the proposed amendment;
 - (b) an evaluation of the costs and benefits of the proposed amendment;
 - (c) an evaluation of alternative means of achieving the objectives of the proposed amendment.
- (3) Despite subsection (1), the Authority need not comply with subsection (1)(b) or (c) if it is satisfied on reasonable grounds that—
 - (a) the nature of the amendment is technical and non-controversial; or
 - (b) there is widespread support for the amendment among the people likely to be affected by it; or
 - (c) there has been adequate prior consultation (for instance, by or through an advisory group) so that all relevant views have been considered.

The Code

[30] Part 12 of the Code provides for the TPM, the purpose of which is to ensure that, subject to part 4 of the Commerce Act 1986, the full economic costs of Transpower's services are allocated in accordance with the Authority's objective.¹⁷ The methodology is developed by Transpower. It must be consistent with any determination made under Part 4 of the Commerce Act, the Authority's objective, and any guidelines issued by the Authority.¹⁸ The Authority must approve the TPM, which is then published and submissions are invited. The Authority gives effect to the methodology by including it in a schedule to the Code. All of these steps have now been taken.

The grounds of judicial review

[31] The relief pleaded is a declaration that the decision to implement the residual charge was unlawful or invalid to the extent it included co-generation, and an order setting the decision aside. In argument, Mr Dunning KC, for Nova, invited us to order the Authority to undertake a process to amend the Code.

[32] Mr Dunning emphasised that Nova does not seek to up-end the TPM. It wants the Authority to implement a modest amendment which would exclude from the definition of a load customer's "gross energy" any embedded electricity that is supplied by an industrial co-generation station coincident with a co-located industrial process. It will be seen that this would distinguish industrial co-generation from other forms of distributed or embedded generation. He offered the text of an amendment and submitted that it would be easily implemented.

[33] The grounds of review are that:

- (a) the decision was unlawful because the Authority misinterpreted the statutory objective in s 15(1) of the Act;

¹⁷ Electricity Industry Participation Code 2010, cl 12.78.

¹⁸ C1 12.83 and 12.89.

- (b) the Authority misapplied the statutory objective and/or acted irrationally by applying a gross load approach to co-generation in circumstances where: co-generation would bear a charge for connection whether it was used by the connected load or not, when the same charge would not apply to other generators; disconnection from the grid was a real possibility for co-generation; the justification offered (size and ability to pay) is not a criterion under or rationally connected with any limb of the statutory objective; and the avoidance incentives that the Authority sought to prevent do not apply to co-generation; and
- (c) the Authority acted unlawfully by failing to carry out any cost-benefit analysis in relation to the residual charge and the impact on co-generation of allocating it based on gross AMD.

Illegality

[34] Mr Dunning submitted that each of the three limbs of s 15(1) is a potential means to serve the long-term benefit of consumers. It may be that promotion of benefits under one limb does not create disadvantages under others, however this cannot be assumed without at least considering all three limbs. He submitted that Palmer J was wrong to hold that decisions need not promote all three limbs.

[35] We agree with Palmer J that a given decision strictly need not promote all three limbs.¹⁹ As a matter of construction, s 15(1) permits a decision that promotes one limb for the long-term benefit of consumers, without promoting the other two. That said, the Act presumes that all three limbs serve the long-term benefit of consumers, and it is obvious that any given decision may engage more than one limb and may even involve trade-offs among them. In such a case it will be necessary for the Authority to consider the impact on one limb of a decision to promote another.

[36] The new TPM radically altered the allocation of grid costs between generation and load, and among generators. For that reason, we accept that in this case the impact on competition among generators was a consideration that had to be taken into account

¹⁹ Judgment under appeal, above n 3, at [71].

alongside efficiency of the industry and, to the extent it was in issue, reliability of supply.

[37] On the evidence, the Authority did expressly consider all three limbs of s 15.²⁰ In accordance with usual practice in judicial review, there was no cross-examination. There is no reason to doubt the Authority's evidence. Mr Dunning sought to meet it by arguing that the Authority cannot have considered them all, so significant was the impact on competition and the viability of grid-connected generation at a co-generation plant. We address that argument in the next section.

Irrationality

[38] The Act offers an inauspicious setting for judicial review on irrationality grounds. It empowers the Authority, which is an expert body, to pursue economic and security of supply objectives which are expansively expressed. The Supreme Court has held that:²¹

... The courts in those circumstances are unlikely to intervene unless the body exercising the power has acted in bad faith, has materially misapplied the law, or has exercised the power in a way which cannot rationally be regarded as coming within the statutory purpose.

[39] Mr Dunning argued that the decision cannot rationally be regarded as coming within the statutory purpose because the residual charge distorts competition among generators, will reduce reliability of supply insofar as it will lead to early exit or islanding (disconnection from the grid) of co-generation, and will adversely affect the efficient operation of the industry.

[40] Counsel drew our attention to an estimate of cost to Nova at the Whareroa plant. It shows that the cost of connection rose in 2023 by approximately \$1.4 million. We were told that this is an increase of 783 per cent. No prudent discount has been sought, but Transpower has applied a transitional cap which offsets the increase by approximately \$163,000.

²⁰ As Palmer J found at [68].

²¹ *Unison Networks Ltd v Commerce Commission* [2007] NZSC 74, [2008] 1 NZLR 42 at [55].

[41] We record in passing that when it decided to adopt the 2020 Guidelines, the Authority had underestimated the financial impact on Nova. The mistake appears to have been substantial; Mr Dunning told us it was by a factor of four. Nothing turns on this, however. The Authority was made aware of the error in the consultation process which followed the High Court hearing, and it adhered to its decision. We accept that the error might affect our view of the adequacy of the Authority's reasons, to which we now turn.

[42] The first question is whether the residual charge is discriminatory as among generators. We note that Mr Laurenson KC, for the Authority, told us that other generators do incur a residual charge for load behind the point of connection, but the charge is modest because the demand is confined to electricity used by their generating stations. The charge is much larger at Whareroa because of the dairy factory behind the point of connection. We did not understand Mr Dunning to dispute this point.

[43] Mr Dunning's larger point about discrimination was that Nova is a generator, not a load customer. He advised that Nova does not contest the policy decision to assign the residual charge to load. But as we recorded at [13] above, Nova draws electricity from the grid only during occasional maintenance. The rest of the time, Nova's plant injects electricity into the grid, like the major generators with which it is in competition in the wholesale electricity market. Counsel argued that Nova is being made to pay a demand charge when its plants are connected to the grid almost exclusively as a supplier of electricity.

[44] The Authority's answer is that the charge is not levied on Nova's generation. It is levied on load behind the point of connection and it treats all load in the same way. It assumes that, over time if not at once, Nova will pass the charge on to Fonterra.

[45] The evidence tends to support the Authority's assumption. Mr Charles Teichert, a senior manager at Nova's parent, The Todd Corporation Ltd, deposed to the profitability of the Whareroa joint venture between Nova and Fonterra. The figures are confidential. It is sufficient to say that the residual charge will have a material adverse impact on the joint venture's profitability. He says that "the threat of disconnection of the plant is not an impossibility". Nova could pass on the cost to

Fonterra but he maintains that, at a minimum, the additional impost will accelerate the plant's eventual closure, to the detriment of all consumers due to lost efficiency and reduced wholesale market competition.

[46] The next question is whether the Authority ought to have distinguished co-generation from other forms of embedded generation on policy grounds. Mr Dunning accepted that under the former methodology embedded generation might be located in distribution networks and deployed to avoid connection charges, which is inefficient. Counsel submitted that most embedded generation merely reduces load on the grid to the advantage of the grid customer. Co-generation is different, at least in Nova's case (as noted at [13] above, its turbines and boilers do not operate independently). Electricity is not produced to avoid connection charges. It is a function of the dairy factory's demand for steam. That being so, Nova contends that a net AMD measure would not create an artificial incentive for investment in distributed generation.

[47] The Authority's response is found in the affidavit of Ms Stockman, which we quoted at [22] above. In short, reduced demand on the grid is recognised in other ways (through lower benefit-based charges) and there is insufficient justification to exempt co-generation because such plants remain connected and a net AMD approach would incentivise them to change their connection arrangements by adding load behind the point of connection. A policy of neutrality among forms of generation was preferred.

[48] Mr Dunning next contended that the Authority was wrong to base the residual charge on ability to pay, which he characterised as arbitrary, incompatible with the Authority's objective, and unsupported by reasoning. Ability to pay is an equitable concept, not a principle of economic efficiency.

[49] The Authority responds that this was done for reasons of efficiency, not equity. We have quoted its 2019 Issues Paper at [17] above. The residual charge will least distort decision-making if it is levied on those who are least price-sensitive, and ability to pay is a reasonable proxy for price-sensitivity.

[50] Some transitional allowance was made for embedded generation. Recognising the risk that its predictions about the impact of transmission pricing on behaviour of market participants might be wrong, the Authority adopted two measures: the prudent discount policy and the transitional cap. The former is available if the methodology might cause a grid customer to disconnect. The latter mitigates the impact of the change in methodology.

[51] Nova has not sought a prudent discount and doubts one is available (because the connected customer is not the dairy factory but the joint venture, Whareroa Cogeneration). The Authority and Transpower will not commit to a prudent discount, saying Nova must apply, but Mr Smith, for Transpower, told us that the transitional cap has been applied on the assumption that the connected customer “owns” the load behind the meter.

[52] Lastly, Mr Dunning contended that while the impact of the residual charge is substantial and concrete, much of the Authority’s reasoning was speculative, unsupported by analysis that might have been undertaken. The Authority’s response is that extensive consultation was done and a great deal of analysis undertaken. It is clear from the affidavit of Mr Glenn Sullivan, a senior electrical technical manager for Fonterra, that the points now advanced were made to the Authority in the consultation process. The question is not whether more might have been done to analyse the submissions but whether Nova has shown that what resulted was irrational. In our view it has not done so.

Failure to undertake cost-benefit analysis of net AMD for co-generation

[53] As explained at [29] above, the Authority is required under s 39 of the Act to undertake cost-benefit analysis. It is not in dispute that the Authority did so, in relation to the 2020 guidelines. Nova maintains, however, that it was obliged to model the effect of the new TPM on co-generation, so that the decision was evidence-based so far as possible.

[54] We accept the submission of Mr Laurenson that s 39 requires an evaluation of the costs and benefits of the proposed amendment as a whole, not each component part. The issue before us is important to Nova, but it is of modest significance to the

industry as a whole. Further, we agree with Palmer J that cost-benefit analysis can be a useful tool, bringing quantitative discipline to policy choices, but not all benefits can be quantified.²² Ultimately what is required of the Authority is a qualitative judgment.

Disposition

[55] The ultimate question in this case is whether the Authority's decision to adopt a gross AMD approach for co-generation was irrational, in the sense that it could not be said to meet the Authority's broadly expressed statutory objective. That standard is not easy to meet. It is not sufficient that we might come to a different decision, had the decision been ours to make. We accept that there was a case for treating co-generation differently for the reasons carefully advanced by Mr Dunning. As presently configured, the co-generation plants at Whareroa and Kapuni inject significant quantities of electricity into the grid and the industrial loads behind the point of connection rarely draw from it. But the Authority came to a different view for reasons which we find rational. They were consistent with its objectives and available on the information before it.

[56] The appeal is dismissed.

[57] The Authority is entitled to costs for a complex appeal on a Band A basis with usual disbursements (including travel costs) as fixed by the Registrar. We certify for second counsel. Meridian will have costs on the same basis, on the ground that it was a respondent, not merely an interested party, and participated fully in the appeal.

Solicitors:

Nova Energy Ltd, Wellington for Appellant
Bell Gully, Wellington for First Respondent
Meridian Energy Ltd, Wellington for Second Respondent
Chapman Tripp, Wellington for Intervenor

²² Judgment under appeal, above n 3, at [120]–[122].