



23rd July 2016

Electricity Authority
PO Box 10041
Wellington 6143

PO Box 113
Motueka 7143
Ph: 03 5281068
Fax:03 5281064

By email: submissions@ea.govt.nz

Consultation Papers: Review of Transmission Pricing Methodology (TPM) and Distributed Generation Pricing Principles:

Dear EA Board Members

Our submission is in response to the EA's request for feedback on the proposed changes to the Transmission Pricing Methodology (TPM) and the Distributed Generation Pricing Principles (DGPP). The EA has recognised that these topics are very closely related and likewise we have found it more appropriate to provide our submission as a joint submission covering both topics. Where appropriate we have subtitled our submission into the separate issues.

We agree in part with some of the changes proposed under the TPM however due to the way the process has been managed we strongly recommend the EA either withdraws the review in its entirety or puts the review on hold indefinitely whilst they establish a robust process for undertaking such an important review of a crucial component of NZ's power industry.

We strongly disagree with all changes proposed under the DGPP review and strongly recommend the status quo is retained.

We remind the board members that for any of the EA's proposals to be approved they must pass the statutory test: *"to promote competition in, reliable supply by, the efficient operation of the electricity industry for the long term benefit of consumers."*

We believe the authority has failed to do this on multiple counts; our reasons are which provided below.

Background:

NZ Energy Limited (NZE) own and operate three small hydro power stations throughout New Zealand. These schemes are small in scale and are classed as distributed generators. They sit well with their communities, providing a valuable source of renewable energy whilst providing support and capacity for the local networks for which they connect into.

The changes proposed in the TPM and DGPP consultation papers will have a significant financial effect on our business along with huge implications to smaller rural communities and their respective distribution networks.

We receive ACOT payments for two of our DGs and in addition ACOD for one. Our DG's have been in existence since electricity was first supplied to the communities in which they are located. In one instance this is 98 years. Clearly these generators came well before the national grid however they have remained in place since that time because they still to this day provide an invaluable source of renewable energy to their communities as well as all the other system benefits like voltage stability, power factor control, reduced line losses, deferred distribution and transmission investment. Furthermore they operate and supply power when the networks are periodically islanded from the national grid.

If the EA proposals are implemented as proposed then it will quite simply destroy our business. This would be an absolute travesty and it begs reason how the proposals put forward by the EA can have that effect on businesses that have operated for so many years.

NZ Energy is a member of the IEGA and we fully support the submission of the IEGA including the additional PWC financial report which we participated in.

Because this submission process involves huge resources to analyse the EA's proposals it is an impossible task for small DG's to undertake this work themselves. We however agree with the submissions of IEGA, Pioneer and Trustpower who have been able to provide a far more accurate and comprehensive review of the CBA than that of the EA.

TPM

- As mentioned above, the revised TPM proposal could be supported in part with the AOB charges having merit. However the lion share of Transpower's revenue will still come from what amounts to a revised "postage stamp charge". It is ironic that EA's concern with ACOT was that this payment resulted in an increase in the "postage stamp" charges under the existing TPM yet they are happy enough for a significant "residual" postage stamp charge to continue under the new proposal. It is intended the residual charge pool will reduce over time as more assets fall into the AOB charge. It would then stand to reason that all existing DG payments can be managed in the same manner as they move from the existing "default" payment to one that reflects an established criterion for valuing DG benefits. Refer below.
- The EA believes the existing ACOT payments are in-efficient and that if DG's do in fact provide true benefits then Transpower will negotiate with DG's in order to establish a contractual payment to the DG. This means that the TPM will need to budget for this cost. That is moving the payment from the network companies to Transpower. That being the case then we would propose that as an interim step all existing ACOT payments are moved across to Transpower effective from 1st April 2018 and the cost is allocated as part of the "residual" postage stamp charge. This then sets up the initial mechanism for Transpower paying DGs for their benefits.
- The payment of ACOT using the current TPM methodology has been a simple mechanism of paying DG's for the benefits they provide. The payments however are not truly aligned to the long term benefits that DG provides. DG benefits are more closely linked to the LRMC of running the transmission system. Future payments as suggested above should be defined for what they are, that being a

“prudent payment” for the benefits DG brings to the LRMC of the transmission system. The setting of this payment would be established from Transpowers LRMC.

- We find it unusual that the EA should choose to consider options for financial hardships and wealth transfers in its TPM, yet separate itself from making similar considerations in its DGPP proposal? The EA has recommended that a prudent discount policy be established so that discounts can be provided to load customers that would otherwise have an impact on the transmission system if they disconnected or reduced energy use.
The cost of which will be “postage stamped” across all consumers. It would then stand to reason that a “prudent payment” made to DG’s is costed in the same manner.
- The EA propose that the TPM charge network companies the proportion of the residual charge based on their previous 5yr AMD capacity and gross up any DG capacity they have on their network. This would then prevent network companies paying any ACOT as there becomes no benefit to them whether the DG generates into the network or not. This is clearly wrong because consumers on a network that has DG are going to pay a higher transmission charge than the networks actual AMD is on the transmission system. For example if the residual transmission charge to deliver 1MW of AMD load to a consumer in Auckland on a network that has no DG is say \$10 and this is the same rate TP charge for the AMD at Hokitika GXP then as proposed a consumer in South Westland that is part of the immediate distribution system our DG connects to will also pay \$10 when none of that energy ever passed over the transmission system because our DG ensured that the AMD at the Hokitika GXP was zero for that given customers load. Or to put it in layman’s terms, the consumer in Auckland pays for and gets a full pie whereas the consumer connected in South Westland has to pay the full price of the same pie but Transpower only deliver part of the pie. What the EA is proposing with grossing up the DG with the AMD is fundamentally wrong. You cannot charge a consumer for something you don’t supply.
- One of the statutory objectives of the EA is to promote competition. The EA does not believe all DG is inefficient so without argument some DG in EA’s opinion is a true competitor to transmission and distribution. The TPM advisors Oakley Greenwood (OGW) has noted in their cost-benefit analysis that existing DG provides benefits to consumers, however. The TPM proposal is strangely silent on how the TPM proposal will promote efficient DG competition in transmission which will provide increased long term benefits for the consumer. In fact if the proposal results in any reduction in existing efficient DG plant then the result will actually be a decrease in competition and hence a failure by the EA to meet their statutory objective.
- Under the current TPM and DPGG proposals DGs will either be forced to shut down or operate their plant in a manner that reduces their costs but this will ultimately increase system peaks and reduce the overall efficiency of the transmission system resulting in a further failure to meet the statutory objective of achieving an efficient operation of the electricity system.
- The proposal by the EA that Transpower will negotiate with DG’s in order to establish a contractual payment to DGs where Transpower believe they are being

provided benefits borders on the ludicrous. This makes no commercial sense at all. Where else in commerce does a monopoly competitor freely negotiate with his competitors with the intention to pay them? The only way that is going to happen in a fair and timely manner is if Transpower are regulated to do that. A fair way would be that the TPM requires Transpower pay DGs based on an established set of criteria. As an interim measure whilst this criterion is being fairly established, Transpower would pay DGs based on their current historical previous 3yr average ACOT payment.

- NZ Energy is concerned that the EA has failed to understand the full extent of the effects technology will have on the transmission and distribution systems. We have recently heard Transpower's CEO saying she sees Transpower's role as becoming a "system battery" within 20yrs. This is a very short time frame and for technology to have this sort of effect on the back bone of our power system then this will ultimately mean those who connect to the transmission system are going to see massive changes in how they generate, distribute and consume energy. The proposed changes to both the TPM and DGPP do not account for such a significant change.
- Technology will drive consumer choice and vice versa. Poor regulatory intervention coupled with increased sector costs will only escalate change. Virtual grid disconnection and load matching will have a massive impact on transmission. DG will be an important part of this technological change and will provide consumers significant benefits. Those who will reap the benefits are those who adopt this technology. It is their given right (consumer choice) to do so. Those that are left will carry the cost. These are the important issues the EA need to be focusing on. The EA's efforts need to go into facilitating these changes and the future of the TPM and DGPP will take care of itself.

DGPP

Part 6

- We strongly opposed the EA's proposal to remove the DGPP from the code. The EA hold the view that the part 6 regulation encourages inefficient investment and operation of DG. However they also said that not all DG is inefficient. They reinforce this view by stating DG that is efficient will be able to negotiate with Transpower in order to be paid for the benefits they bring to Transmission. So even if this is the case then the DGPPs must remain as they provide "efficient" DG's the protection of being able to establish a connection contracts with the network companies and provide a disputes resolution process for managing those contracts.
- The government and the industry recognised there needed to be rules to assist and protect DG's that came into fruition in 2007. NZ Energy has relied on these electricity governance regulations 2007 when planning, consenting and upgrading of our power stations. Without these rules the commercial risk would have been too high to spend many hundreds of thousands planning and upgrading only to be stone walled by a monopoly network company that didn't want to deal with you or intended to protect or enhance their own generation aspirations. Of significance is a planned 4.6Mw plant that will produce 30Gwh annually of renewable energy for 3750 homes in the top half of the South Island, an area of significant

transmission constraint. This station was given the green light to being procurement and construction the week prior to the TPM and DGPP second discussion paper release. This has now been placed on hold indefinitely due to the impact the other generation assets will potentially have on the company's balance sheet.

ACOT

- ACOT payments made under the existing DGPP are a result of a simplified method of determining payment to DGs for the benefits they provide. In recent years this has resulted in “lumpy” payments due to the recent transmission upgrades. However those are the rules and significant investment in DG has been made that relied on those rules. Investment in DG to avoid transmission charges has been around since the nation grid was first built. Our DGs have been around as long as the national grid. Transpower take account of DG capacity when they do their long term planning. DG have long formed part of the LRMC of running the transmission system and therefore should form part of the operating cost to the transmission system no different than any other part of the transmission system that is used to deliver power to the end consumer.
- Payment for this benefit could move into the TPM and be paid by Transpower directly. As we have suggested above, payment's should be defined for what they are, that being a “prudent payment” for the benefits DG brings to the LRMC of the transmission system. The setting of this payment would be established from Transpowers LRMC. The adjustments to Transpowers LRMC made by OGW in its analysis appear totally arbitrary and without any supporting evidence. They have also used an assumption of all future DG being diesel powered which suggests they have not been adequately informed by the EA on the consented DG site in its energy database?
- We propose as an interim step all existing DGs receiving ACOT payments are moved across to Transpower effective from 1st April 2018 so that all regions are treated the same. Initial payment would be based on the DG's current historical previous 3yr average ACOT payment. This cost being allocated as part of the “residual” postage stamp charge. This then sets up the initial mechanism for Transpower paying DGs a “prudent payment” for their benefits they bring to transmission.
- An industry working party should then be established so that a robust set of rules are established for determining how DG benefits are identified, defined and valued. Once this has been ratified by the Commerce Commission as part of the regulated price paths then the interim DG payments will transgress across to the new “prudent payment” policy.
- The EA's proposal to have Transpower, a monopoly who is in direct competition to DG's being the judge, jury and executioner is not acceptable.
- The EA view is that the DGPP provide the wrong pricing signals. They have got this wrong. NZ Energy operates its power stations at full capacity at peak times based on the pricing signals set by ACOT. This is no different than Transpower contracting DSR or network companies providing hot water ripple control. They are all pricing signals geared around peak loading on the transmission system. There is nothing wrong with that and it is not a “wrong pricing signal”. We would

guarantee that any working party or Advisory Group set up to establish what benefits DGs bring to Transmission would have at the very top of the list a pricing signal to control transmission peaks. The EA are completely out of touch with power system management.

- These pricing signals don't just apply to transmission. There are significant benefits for the network companies as a result of controlling peak loading and this extends to the consumer as well who are ultimately they ones who pick up the tab for all losses and capital expenditure throughout the whole transmission and distribution system.

Common Costs

- The proposal to allow network companies to charge DG's a common cost of the distribution network would send our company broke. Period. We question where this idea even came from and what real modelling and research the EA has done to justify such a proposal. The proposal by the EA hadn't even been discussed with the network companies. When we have asked them what will the common costs be they have all said they haven't a clue. It's all new to them as well. We ask how then has the EA has been able to model and achieve a positive cost benefit to the consumer under their statutory requirement to do so.
- The best the network companies have been able to do is provide an estimate of what these costs may be. These range from \$20 to \$47Mwh. Even at the lowest end of the scale those costs would cripple our business.
- If implemented then the outcome is ludicrous. By way of example our DG capacity at Fox in South Westland roughly matches the load in the immediate South Westland area. This would mean our Fox generator would have to pay for half the distribution costs for that area let alone a proportion of the distribution system upstream of Fox. The result is that the common cost charge would be more than this DGs entire revenue including the existing ACOT revenue.
- Also if implemented only consumers on distribution networks that have DG connected to them would receive significant benefits from reduction in distribution charges whereby all consumers would receive increases in energy charges as the DGs try and recover the additional operating costs. If they can't they will go broke. This certainly doesn't meet the EA statutory requirements. Furthermore, this then leads to yet another ludicrous situation in that the DG that goes broke is no longer going to pay any common costs so the whole distribution charge will fall back with the consumers.
- If implemented as proposed by the EA then this would see our DG's go broke. How can it be that power stations that has been there for 98yrs and 80yrs, connected to the same distribution lines supplying the same consumers and operating viability for this whole time suddenly overnight become so unviable they have to close down. Nothing physical has changed. It's beyond comprehension that this has been proposed.
- The proposal becomes even more farcical because grid connected generators (GCG) are not charged for the same access of injecting energy into a distribution network. This provides GCG a hefty commercial advantage over competing embedded DG and that is not a level playing field by any means. This would not past the statutory test of promoting competition.

- The proposal would result in DGs making inefficient investment in transmission lines just so they can bypass the local distribution network. This is a reality. We are working on two new power scheme proposals which would certainly now fall within that category.
- The proposal would also promote DG's to embed load in behind their ICPs thereby bypassing the distribution networks. The result will be those customers left connected to the distribution network incurring higher distribution costs.
- Furthermore the proposal would also promote some DGs who are able to, to contract direct with nearby consumers on a virtual grid disconnection or load matching basis. Technology can easily take care of that.
- The EA assumes that DGs will carry on operating regardless as they have no other choice. If that was the case and common costs were low enough to allow the DG to still operate and ACOT was removed then DG with storage would then be incentivised to no longer target network peak times but more so run their plant to reduce capacity charges that result from common cost. This would not be consistent with how the power system needs to be managed.
- We support the IEGA submission and their PWC report on market financial impacts and can confirm our financial position is reflected in those forecasts.

DGPP General Comment

- The EA is already aware of the impacts and implications that emerging technologies will have on the distribution networks. These changes will be driven by consumer choice. DG will be a significant part of these changes. Part 6 of the code must be retained so that consumers will receive the benefits from deploying emerging technologies and not stone walled by network companies, transmission and GCG who see emerging technologies as a threat.
- The EA must embrace emerging technologies; it is not possible in this day and age to resist these types of changes. A crucial element of these changes is to have a good regulatory regime that doesn't inhibit change. Part 6 of the code provides the sound regulatory platform needed for investors, entrepreneurs, power companies and consumers to embrace these emerging technology changes.
- The authority's original position was they did not have to give consideration to other government policies and objectives as it was not part of their own statutory objective. They were very clear on that. However the second discussion papers now briefly touch on other aspects outside of their own objective but only to the extent that any other considerations are rejected or discounted. This is wrong. The authority board members are charged with good governance and it would certainly not be good governance to take a one sided consideration of such important issues that face not just our electricity industry but New Zealand as whole.
- In concluding the DGPP paper looks very much like something that has been hastily reverse engineered to try and achieve a pre-determined outcome. If we can see that and the board knows that then there is only one decision they can make and that is to reject the DGPP in its entirety.

General

- The following comments generally relate to both the TPM and DGPP discussion papers.
- In NZ Energy's first submission we raised our concern over the complexity of the options paper. We found the working paper a very complex and confusing document. Even experienced economists struggled with its context and what it may mean. The EA had made some attempt in the second discussion papers to improve on this but they have still failed to put together a paper that can be understood by all and that affected parties can actually determine what the effects will be on their business. NZ Energy is small private business a lot like many of the small IEGA members. These members do not have the resources or finances to delve into a document of this complexity. Collectively we have been able to put together a more comprehensive submission under the IEGA however as an individual operator it is impossible to determine what the actual impact on our business will be. This is procedurally unfair on small scale operators.
- We are concerned with robustness of the EA work. Having read the papers and more recently the question and answers papers produced by the EA it is very concerning what we have identified. In particular the EA has repetitively used the following statements to justify or explain their decision making:
 - o assume, assumed, assumption, conservative
 - o estimate, simplified allocation, unquantified
 - o reasonable approach, appears to meet, unlikely to be perfectly accurate
 - o intended to simplify, likely outcome, requires some judgement
 - o not significantly

We find this astonishing that such an important industry matter can be managed in this way. There wouldn't be a business board room in NZ that would approve a business proposal that had that level of presumption attached to it. It would be commercial suicide for both the company and the board.

- The generation, transmission and distribution of electricity is not an unknown science, in fact it is a very know science and can be modelled right down to the last electron. Very easy in this day and age of technology to computer model that. Easy then to add to that model market forces, prices, growth etc to produce financial modelling for whatever scenario you may wish to consider. The result is a very accurate conclusion; one that is meaningful and with that a very high level of certainty from which decisions can be made. The EA's work has not got anywhere near achieving this level of accuracy and certainty that which is needed by the EA board in their decision making process.
- For the EA board to approve these proposals in part or full they must be absolutely certain and confident that it will pass the statutory test: "*to promote competition in, reliable supply by, the efficient operation of the electricity industry for the long term benefit of consumers.*" This is a significant test and to get it wrong would leave itself open for a legal challenge, something any board or business owner would want to avoid.
- The proposals have a detrimental effect on distributed generation. DG is something that has been supported by consecutive governments for many years. The Electricity Governance regulations 2007 specially included the connection of distributed generation into these regulations because of the importance the DG

would have on our future energy needs. The national policy statement on renewable energy further enforces DG. Renewable energy targets and climate change agreements will rely on DG to achieve their goals. To go against these other government policies and objectives would be political suicide and would in our opinion be greeted with a significant political backlash. It is not somewhere our industry wants to be heading. We have taken years to move on from the industry reforms and price shocks and are only just now starting to show some steadiness and direction. Don't unleash the monster again. (don't forget what was proposed with NZ Power)

Summary

- We strongly recommend the EA either withdraws the TPM review in its entirety or puts the review on hold indefinitely whilst they establish an industry working group which can work through all the issues that have been raised in this review to date or
- Alternatively if the EA is of the mind to proceed with the TPM proposal then as an interim step all existing ACOT payments are redefined as a "prudent payment" and moved across to Transpower effective from 1st April 2018 and the cost is allocated as part of the "residual" charge. This then sets up the initial mechanism for Transpower paying DGs for their benefits and
- An industry working party is established so that a robust set of rules are established for determining how DG benefits are identified, defined and valued. Once this has been ratified then the interim DG payments transgress across to the new "prudent payment" policy and
- The TPM residual charge removes the aggregated gross demand and replaces it with simply the GXP 5yr average AMD. Consumers on networks that have DG connected should not be paying for transmission capacity they never use and
- The EA engage system engineers in their planning teams to work with their economists so that future financial modelling is precisely accurate and
- We strongly disagree with all changes proposed under the DGPP review and have no other recommendation but to reject the DGPP proposals and retain the status quo.

Yours sincerely



David Inch
Managing Director