

## Submission on the Avoided Cost Of Transmission (ACOT) payments for distributed generation

Submitted by Transpacific Industries Group (NZ) Ltd

This submission is in response to the Electricity Authority's (EA) Review of transmission pricing methodology working paper on the avoided cost of transmission (ACOT) payments for distributed generation dated 19 November 2013

Comments noted below are listed in the order of the key conclusions made in that working paper

### **Background;**

Transpacific Industries Group (NZ) Ltd (TPI) – currently operates 15 X 1MW generating sets in the Auckland area. These units are all fuelled by landfill gas and operate essentially as baseload units with individual unit availability typically in the 88-96% range which means that even de-rated they can supply around 12MW into the local network. Generation voltage is typically 400V which is then stepped up to either 11 or 33 kV for injection into Vector's network.

Further expansion of another 8MW is possible.

ACOT plays an important role in the financial justification of the installation of these units as typically they operate for substantial periods when the spot price is below the Long Run Marginal Cost for the units.

TPI supports the submission made by the Independent Electricity Generators Association but makes the following additional points;

### **EA conclusion:**

Payments by distributors of ACOT is estimated to be an economic cost to consumers

### **TPI submit that:**

The very broad brush approach that has calculated the cost to consumers (stated at ca \$10/ICP/annum) appears to ignore the dynamic efficiency of DG investments and also shows scant regard for the savings arising from reduced spot prices that occur when DG supports a constrained portion of the network or grid.

Withdrawal of ACOT payments would have a severe impact on the financial viability of landfill gas fuelled power generation given that such a withdrawal would increase the volatility of cash flows . [REDACTED]

[REDACTED]

[REDACTED]

**TPI seek that:**

ACOT payments continue to be a feature of DG revenue streams

**EA conclusion:**

No evidence of DG having deferred transmission or distribution investment.

**TPI submit that:**

Until recently Transpower's policy was to ignore any DG less than 10MW unless it was in a critically constrained area eg the West Coast. Collectively therefore this policy would mean that reasonable volumes of generation that fell under this threshold would not be aggregated for consideration of transmission benefits.

Similarly in relation to distribution investment, TPI have experienced instances where as part of the works required to get connection agreements into the local network the DG operator has had to fund substantial (\$2M+) upgrades to the local network. This expenditure has definitely benefited the network company as it has relieved them of the eventual need to perform the upgrade works at their own cost.

The impact of DG in a distribution system is also likely to reduce the loss factors within that network and can also provide voltage support and reactive power correction however the DG operator is unlikely to ever receive credit for this since the information flow on the benefits is asymmetric.

**EA conclusion:**

ACOT provides no efficient location signal for DG

**TPI submit that:**

If the NZ electricity market is seen as being a national one with the same rules applying everywhere then of course there will be no locational signal. In reality however the market is regional or even- GXP based, and ACOT pricing that reinforces or reflects that situation will provide a far stronger locational signal. Current nodal differential pricing does go some way towards providing that signal but is frequently not strong enough.

DG presence in regional markets is also seen as providing additional competition benefits for consumers.

**EA conclusion:**

DG in one network increases the cost of transmission faced by other networks

**TPI submit that:**

Under the current transmission pricing methodology Transpower's revenue is capped and essentially guaranteed therefore any reduction in total load resulting from the negative load provided by DG will obviously increase charges to all network operators. We have experienced instances in the past, prior to going onto regulated terms, where the network operator would discount our ACOT payments to provide for this effect.

Regardless however the reduced load provided by DG still has real and tangible benefits to the transmission system. The problem lies in the pricing methodology which has no mechanism to reflect these savings.

**EA conclusion:**

Transpower does not place much reliance on DG in its demand or investment forecasts.

**TPI submit that:**

As mentioned earlier Transpower frequently does not have full details on the type, availability or de-rated generation capability of generation less than 10MW so it is not surprising that it is unable to factor in such generation. Multiple DG units have a combined reliability that can be very high, especially with generation such as ours and typically the only occasions when we are unable to inject is when we are tripped by faults in the local or regional network.

**EA conclusion:**

Schedule 6.4 of the Code should be reviewed to ensure ACOT payments compensate DGs for the benefit DG provides through avoided economic costs, rather than avoided transmission charges to the distributor. If the Authority decides to undertake such a review, this could be progressed separately from, but potentially in parallel to, the TPM review.

**TPI submit that:**

If such a review is undertaken it should include dynamic efficiency considerations as well as considering the additional competition that DG can provide in a region.

