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Dear Michael,

ACCC draft Decision - Amendments to the National Electricity Code Network pricing and market network service providers

This letter constitutes a submission from the National Electricity Distributors Forum (the NEDF)[1] to the ACCC on its draft Determination on Network pricing and market network service providers. It supports the comments made by our representative, Mr. Frank Nevill, at the pre Decision Conference on 15 March 2001.

The NEDF believes the ACCC's draft Decision, with its concept of congestion based transmission pricing, may eventually be developed to provide a more efficient basis for the allocation of network costs than the present arrangement. It is however likely to suffer from the limitations that the ACCC noted for NECA's LRMC proposal, chiefly subjectivity associated with load, generation and network planning scenarios.

Further modification of the transmission pricing allocation, beyond that proposed by the ACCC, is believed necessary to provide appropriate pricing signals for all generators. The NEDF also has concerns with some other aspects of the draft Decision. These are set out below.

Efficient transmission network pricing

In rejecting the "beneficiaries pay" concept, the ACCC has recognised the unworkability of the arrangements that had been proposed by NECA. The NEDF agrees with this preliminary assessment, noting that NECA is presently undertaking further work to identify a practicable method for implementing the concept.

In the economic analysis of networks, electrical losses are always a factor. However, in the case of transmission networks, electrical losses are a relatively small cost component. To illustrate this, the annual revenue for TransGrid's network, at about $350 million p.a. is contrasted with the annual cost of losses for energy transported through that network. If losses are valued at the LRMC of new generation, this annual loss cost would be in the order of (50*10^6MWh)*(2% loss)*($40/MWh) = $40 million p.a. On an on-going basis, the cost of electrical losses is thus a small proportion (10-15%) of the total cost of transmission.

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1 The National Electricity Distributors Forum comprises the following member organisations: ActewAGL; Advance Energy; AGL Electricity; Aurora Energy; Australian Inland Energy; CitiPower; ENERGEX, EnergyAustralia; Ergon Energy Corp. Ltd; ETSA Utilities; Great Southern Energy; Integral Energy; NorthPower; Powercor; TXU; United Energy; and Western Power Corporation.

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It therefore follows that locational signals provided to the market by transmission loss factors are relatively weak, compared with the underlying infrastructure cost. The current market design however separates these two locational signals with the transmission network costs passing through the regulated network price chain and the cost of losses flowing through the wholesale energy market. This separation unnecessarily dilutes the locational signals that the market is seeking to promote.

This separation of short run pricing signals through the market and poorly allocated long run network pricing signals limits their effectiveness. The existing transmission pricing arrangements do not recover significant infrastructure costs from generators. The existing combination of market and network pricing discriminates against any new entrant generator. As the existing generators have been absolved from funding any ongoing transmission network cost they in effect trade in a market which is settled close to the power station gates. A new generator connected to the transmission network would be required to pay for its contribution to network costs and would need to recover that cost through its trading operations. A generator connected within a distribution network is similarly disadvantaged and the TUoS pass-through provisions are a "band-aid" solution, which could not deliver efficient outcomes.

The main concern that the NEDF has with both existing and proposed arrangements is the incentive they create for an embedded generator to bypass both distribution and transmission networks. The Attachment to this letter details the potential pricing effect on an embedded generator.

The NEDF believes that only the allocation of a component of transmission infrastructure costs to the existing transmission connected generators will create a level playing field for generators. In effect, the existing generators need to pay for that component of the transmission network which was constructed to convey their output to load centres.

Consistency with Jurisdictional arrangements and distribution pricing

NEDF members are subjected to a variety of jurisdictional requirements in relation to their network pricing. There is already a lack of clarity with those portions of part 6E of the Code which apply to DNSPs and those that are supplanted by Jurisdictional instruments, licencing and compliance requirements. In this regard, IPART has recently issued its "Pricing Principles and Methodologies"[2] pursuant to clause 6.11(e) of Part E of the Code, which effectively supplants the majority of Part E. In addition to IPART, the Queensland Jurisdictional Regulator, the Queensland Competition Authority has also signalled its intent not to apply Part E of Chapter 6 of the Code, citing economic inefficiency arguments.

Elements of the ACCC's proposals extend to the modification of part 6E of the Code and the NEDF is concerned that this would create further ambiguity. The NEDF is broadly supportive of national arrangements for distribution pricing, where these result in a streamlining of regulatory compliance obligations, and do not result in unduly prescriptive or intrusive regulation being imposed on distributors. Any such national arrangements will need to be developed in consultation with affected participants, and in cooperation with the Jurisdictional regulators. These arrangements must also adequately accommodate individual circumstances.

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2 Independent Pricing and Regulatory Tribunal of NSW, Regulation of New South Wales Electricity Distribution Networks - Pricing Principles and Methodologies for Prescribed Electricity Distribution Services, March 2001

Development of pricing arrangements

It is a matter of high priority that the transmission pricing arrangements be finalised. The NECA and ACCC review of pricing arrangements has taken almost four years, during which period there has been uncertainty for network users, network service providers, market network service providers and generators (both embedded and transmission network connected).

Nevertheless, the NEDF is concerned that the ACCC has significantly underestimated the time likely to be required to develop and test its "congestion based" pricing concept. The pricing approach would require exhaustive modelling and its implications must be understood before it could be considered for adoption. It is also very likely that a transition over a few years from the existing to new arrangements would be required to avoid significant pricing shocks to network users.

Pricing negotiation and discounts

The ACCC proposes a negotiation framework and a requirement that TNSPs disclose information on the calculation of TUoS charges. Discounts in the TUoS general and common service charges would be recoverable from other customers, subject to regulatory approval at the next reset.

The recovery of discounts in this way would be generally supported. However, the information disclosure requirement above would lead to larger customers (for whom electricity cost is a significant consideration) being aware of what the minimum price (the usage charge) would be and they would naturally seek a discount to that level. The TNSP would be unable to objectively evaluate any claim by the customer that the full transmission price would lead to failure of the business (information asymmetry in this case would favour the customer). The risk of subsequent regulatory disapproval of such a discount would be unacceptable to the network business. What would resolve this situation would be uniform negotiating guidelines to apply to all parties, with clarity on the regulatory treatment of discounts.

This is another area where Jurisdictional regulators have already established some precedents and whilst a common negotiating framework for electricity network prices is desirable it will require the cooperation of the Jurisdictions.

Pricing calculation

The ACCC favours a NEM wide calculation of TUoS charges by NEMMCO, which would involve financial transfers between TNSPs (at least for the usage component, possibly later for the general and common service components). NEMMCO settlement of the TUoS charges is also proposed.

A uniform approach to pricing is supported by the NEDF, but the involvement of NEMMCO in the calculation of transmission charges is questionable. All of the data and local planning knowledge required to carry out pricing resides within the NSPs and its transfer to NEMMCO would be inefficient. In addition, prices for large customers are regarded as commercial-in-confidence by those customers and in some cases reflect pre-NEM pricing decisions. A set of guidelines and compliance notification should be all that is required for NSPs to carry out this task.

The billing arrangements for TNSPs are relatively straightforward and do not require central settlements by NEMMCO. Within a region, any revised transmission pricing arrangements should deliver outcomes that are independent of asset ownership. This requires all components of the transmission charge to be treated on a whole-of-region basis.

Embedded generators

The ACCC does not support the automatic pass through of a component of TUoS to an embedded generator as it may provide uneconomic price signalling. Rather, it supports pass through of the marginal cost of transmission (less locational signals in the spot market).

This proposal is supported by the NEDF. However, as noted earlier, the present pricing allocation, which assigns all infrastructure costs to customers is distortionary.

TUoS pass through

Whilst the NEDF generally supports the concept that TUoS price signals should be preserved in the pricing to end use customers, it must be recognised that for the great majority of customers, TUoS represents a small portion of the electricity charge. Furthermore, this same majority of customers presently have anytime kWh metering and price structures that are often not reflective of the costs of service delivery, so the ability to pass through TUoS signals to them is very limited.

The NEDF is committed to the development of an efficient and workable market environment and to that end would welcome the opportunity for further discussion and participation.

I trust the above comments will be of assistance to the Commission in resolving this complex matter. Mr. Harry Colebourn of EnergyAustralia on 02 9269 4171 would be pleased to provide any clarification you may require.

Yours sincerely

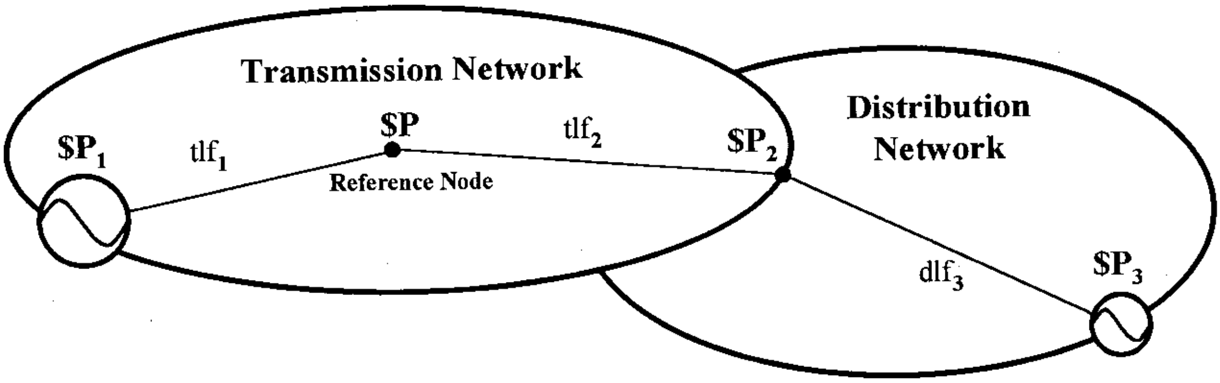
Patrick McMullan

Patrick McMullan
Secretary, National Electricity Distributors Forum

Attach.

Attachment – Price for embedded generator

The simplified diagram below depicts a transmission network and a distribution network. There are generators connected in the transmission network which participate in pool settlements along with the distribution Retailer. There is also an embedded generator within the distribution network.



The following parameters are typical of transmission systems and for distribution to the subtransmission level (33 or 66 kV). This is the level at which a market sized (>30MW) embedded generator would be likely to connect.

Generator transmission loss factor tlf_1	=	0.98
Load transmission loss factor tlf_2	=	1.01
Distribution loss factor dlf_3	=	1.02

Consider further that the transmission costs of $10/MWh are recovered from the distributor, for energy delivered to the distribution network, and that a distribution cost of $15/MWh would apply to the subtransmission level.

Settlement quantities without TUoS passthrough

Now, if the transmission generator bids $40/MWh into the pool and is required to operate, the following settlement arrangements would apply:

Generator bid price P_1	=	$40.00
Pool price P = $40.00/0.98	=	$40.82
Market price for load P_2 = $40.82*1.01	=	$41.22
... plus transmission cost $10.00	=	$51.22
Quantity adjustment to ST level	=	1.02
Price for load at ST = $51.22*1.02	=	$52.25
... plus distribution costs $15.00	=	$67.25 (price paid at P_3)

If the embedded generator were to successfully operate into the pool it would need to bid less than:

Market price for load P_2	=	$41.22
Quantity adjustment to ST level	=	1.02
Price for generator at ST = $41.22*1.02	=	$42.05

Settlement quantities with TUoS passthrough

If TUoS pass through were to apply to this generator, the outcome would be negotiable as required by the Code. Embedded generators have claimed that the whole of TUoS should be passed through whilst distributors believe that the pass through should be confined to the economic deferral of transmission augmentation works or for smaller generators, to the variable component of TUoS. The range of negotiated outcomes would therefore be in the range of $0 to $10 for energy delivered to the pool with a likely outcome of around $5.00/MWh. This would result in a payment to the generator of:

Price for generator at ST	= $42.05
... plus TUoS pass through = $5.00*1.02	= $5.10
Payment to embedded generator	= $47.15

Settlement quantities with generator TUoS

Now consider that the TUoS charges for the transmission network are reallocated, to recover the costs associated with transmission to load centres directly from the transmission connected generators. It should be noted in the above example that these generators have in effect paid only $0.82 towards the cost of operation of the network through their contribution to network losses. It is assumed here that $3.00/MWh of the $10.00/MWh costs would be recovered from generators for energy delivered to the pool.

The transmission connected generators would recover this transmission cost from their operations, through the pool price and the contracts which support it.

Generator bid price P_1 = $40.00+($3.00*.98/1.01)	= $42.91
Pool price P = $42.91/0.98	= $43.79
Market price for load P_2 = $43.79*1.01	= $44.22
... plus transmission cost $7.00	= $51.22
Quantity adjustment to ST level	= 1.02
Price for load at ST = $51.22*1.02	= $52.25
... plus distribution costs $15.00	= $67.25

The price to the load is therefore unaltered with the inclusion of TUoS within the transmission generator price.

If the embedded generator were now to successfully operate into the pool it would need to bid less than:

Market price for load P_2	= $44.22
Quantity adjustment to ST level	= 1.02
Price for generator at ST = $41.22*1.02	= $45.11

The price for the embedded generator has increased due to the inclusion of TUoS within the transmission generator price.

Summary and observations

With an indicative transmission connected generator price of $40.00, the following outcomes might be expected, for an embedded generator connected at the subtransmission level.

TUoS charging arrangement	Price for embedded generator or load
Existing with no TUoS passthrough	$42.05
Existing with TUoS passthrough	Range $42.05 - $52.25, mid point $47.15
TUoS to transmission generators	$45.11
Price by the load at P_3 in both circumstances	$67.25

The indicative differences outlined in this table illustrate that:

- Transmission connected generators in the present arrangement pay only for marginal losses ($0.82/MWh in this example) which is but a small fraction of the cost of providing the transmission network infrastructure, in the order of $10.00/MWh.
- In the existing TUoS regime, transmission connected generators do not bear infrastructure related costs associated with transport of power to load centres. This distorts the price signal to an embedded generator wishing to trade in the market.
- The present arrangement, where distributors are required to negotiate the pass through of TUoS to embedded generators, is likely to produce significant variation in the overall price to an embedded generator. Based upon the present transmission pricing structures which are poorly reflective of marginal costs, this may well significantly overcompensate an embedded generator.
- Transmission connected generators make use of a significant part of the transmission infrastructure, which was constructed to enable their output to be delivered to load centres. This component of transmission cost formed part of the investment decision to proceed with transmission connected generators. Allocation of that portion of TUoS costs to the transmission connected generators would significantly increase the pool price and by restoring a level playing field render embedded generation more competitive.
- Without either TUoS passthrough or the allocation of transmission costs to embedded generators there is a significantly greater incentive for the embedded generator to bypass the distribution network and supply a component of load directly.