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23/11/2012

Attention: Productivity Commission
Electricity Network Regulation
Productivity Commission
GPO Box 1428
Canberra City ACT 26001

Dear Productivity Commission,

## Electricity Network Regulatory Frameworks

This letter is in response to the Draft Report, *Inquiry into Network Regulation*.

CS Energy is the registered National Electricity Market (NEM) market participant for Kogan Creek, Callide B, Gladstone and Wivenhoe power stations, as well as a joint venture partner in Callide C power station. CS Energy has approximately 4,000 mega watts of power generation investments.

The company has participated in the recent reviews of transmission through active membership of the National Generators Forum (NGF). The NGF has been opposed to changes in the NEM dispatch arrangements proposed by the Australian Energy Market Commission (AEMC). CS Energy has participated in the AEMC's Consultative Committee of the Transmission Frameworks Review and has been in direct discussion with the Commission.

The Issues Paper had only six pages dedicated to interconnectors, giving no indication of the breadth of recommendations the Commission would put forward in the Draft Report. It was surprising the Commission would recommend wholesale change to the NEM's pricing and settlement arrangements (with draft recommendation 18.1, which recommended Optional Firm Access ("OFA") market design be applied to the NEM) with so little analysis and consultation. The Commission's draft recommendation 18.1 is premature and should be withdrawn. Reasoning for this is that competitive electricity market design involves trade-offs between productive, allocative and dynamic efficiency. CS Energy considers the Commission has been misled into believing there is a market design that provides the most efficient outcome. The enclosed attachment explains CS Energy's current consideration of electricity market design. We would encourage the Commission to consider this in preparing its final recommendations.

Yours sincerely

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**View of Draft Report**

The Draft Report is disappointing as it republishes a draft proposal of the AEMC, which has yet to be assessed for economic efficiency against the National Electricity Objective. There is no evaluation of the AEMC's proposal in the Draft Report. There are a number of industry representatives that hold a differing view to the AEMC, that have not been consulted. This is because the Commission issued a brief consultation paper on interconnectors then subsequently changed the scope of the review, coming up with unsolicited proposals on changing the electricity market design. If the Commission had consulted on what electricity market design the NEM should use, it would have had a different response to the Issues Paper.

CS Energy sums up the Commission's view as being it believes it possible to:

Effectively quantify, price and allocate shared transmission costs on an ex-ante basis – this is shown by the comment "*applying formulae to market bids in the presence of congestion, or other longer-term methods that ensure generators face their true costs*".

Encourage participants to efficiently respond to these signals, whilst simultaneously improving the derivatives or "*hedging*" market, which it considers to suffer from the present regional design and "*lack of effective inter-regional hedging products*".

Implement "*reforms that address disorderly bidding also address the root cause of problems in the hedge market*".

CS Energy believes the contrary. The imposition of local generator prices and fixed, speculative estimates of transmission costs could result in a less efficient commodity exchange.

This is because we believe electricity market design has to trade off efficiency goals. In particular, we consider an electricity commodity exchange requires some approximations to encourage trade due to the difficulties in pricing ex ante costs of a shared transmission system, subject to significant externalities. These regional approximations should be where supply, demand and transmission conditions allow for a homogenous pool of Participants to deliver the efficiency benefits of the commodity exchange. There is no evidence approximation in NEM's design, which draws the benefits of regional commodity exchanges, results in systematically poor coordination of transmission and generation investments and excessive productive inefficiencies (known to the Commission as "disorderly rebidding").

For participants in the exchange, including potential investors, we believe incentives should reflect the fundamental dynamics of the market in which they are competing so consumers can be served at the lowest cost. Transmission costs can be included. An incentive may therefore be an allocation of shared transmission system costs as this may encourage efficient behaviour to avoid such costs. The problem is that incentives are supposed to change behaviour of Market Participants and so have to act *ex-ante* the decision by the Participant. However the only way to accurately capture and allocate costs of a shared transmission system is on an *ex-post* basis. It is impossible to incentivise perfectly efficient behaviour as the error in the ex-ante allocation of transmission costs may well lead to inefficient behaviour. This means there will always be inefficiencies accruing from the coordination problem. The concept of "*exposing generators to their true costs*" is flawed. In addition, if these costs are allocated in a way that diminishes the utility of the commodity exchange, then it may not be worthwhile applying them.

**The access trade off**

It is our view that "access" is not provided through the physical capability of the system linking buyers and sellers, but through market regulations that ensure market participants are able to actively trade in a competitive manner. This facilitation of trade by pooling participants with diametrically opposing risks ensures transparent and effective allocation of resources throughout the sector. Facilitating trade therefore has productive, allocative and dynamic efficiency benefits associated with a liquid, transparent and deep electricity market, facilitated by the provision of access.

In order to achieve the efficiency gains of a commodity exchange, buyers and sellers must be confident they can honour their contracts with each other. To encourage the confidence to trade, Participants' access may be "firm" in that they know the price and /or volume they agree will be settled possibly irrespective of any physical shortcomings of the transmission system. However, the provision of "firm" access to generators may provide no incentive on generators to minimise the costs of transmission in their trading and investment decisions.

In simple terms there is an 'access trade off' between the:

- productive inefficiency in the spot market, possible dynamic efficiency in coordinating generation and transmission; and
- productive, allocative and dynamic efficiency through a liquid, transparent and deep physical commodity exchange.

For the provision of generator access, it is obvious that providing access unencumbered by any associated cost or risk would be massively inefficient. The diminishing returns of firming up access in the commodity exchange would be eclipsed by inefficiencies arising from poor coordination of generation and transmission investments. The opposite would be true if every cost of the transmission system was levied on participants as it could prohibit trade on the commodity exchange.

A trade off should be struck by introducing some risk and/ or costs on generators which maintains a level of access for an efficient commodity exchange, yet simultaneously disciplines generators to improve dynamic efficiency coordinating generation and transmission investments.

With the NEM's 'access trade off', dispatch risk (that is the risk of being constrained off and therefore not being paid in the spot market) faced by generators is reflective of the costs of the TNSPs planning, investment and operational decisions all rolled into one single incentive in the spot market. This serves to improve dynamic efficiency as it disciplines investors to locate in uncongested parts of the regional network. This is complemented by the network monopolies' RIT-T process which ensures dynamic efficiency is considered in the present market design. On the other hand, dispatch risk may create productive, allocative and dynamic inefficiencies through spot market mispricing and restricted commodity market trade. CS Energy does not consider these to be *undue* inefficiencies and considers them to be immaterial compared to the benefits of encouraging trade on the commodity exchange.

If we consider this trade off in the context of the NEM, if it had a single reference price, then we would expect the commodity exchange to improve its efficiency. We would have more counterparties to compete. There would be more efficient spread of market and credit risk with deeper traded markets providing futures prices to underwrite investment. However, we would have a market that would not effectively reflect scarcity conditions across the NEM, be they due to high demand, lack of supply or insufficient transmission capability. This would lead to inefficiencies.

The NEM's geographic spread of South-Australia in the west, Tasmania to the South and Queensland to the north would prevent a single NEM commodity exchange being efficient as the cleared price would not reflect scarcity. The Rules would have to administer further incentives to reflect scarcity. The need to administer excessive incentives other than spot prices, (such as

through TNUoS[1], Network Support Agreements, directions with constrained-on payments, FCAS[2] directions, etc) would indicate the wrong trade off has been made between encouraging the commodity exchange and allocating network costs.

If we consider the Commissions recommended Optional firm access model in the context of this trade-off, there is the risk that it will aim to improve productive efficiency in the spot market at the cost of efficiency in the commodity exchange. It may do this because at the heart of the OFA proposal is different prices for different counterparties. Generators that are scheduled "off" by AEMO under constrained conditions receive a local price, but consumers, scheduled "on" generators and non-scheduled generators do not.

The only way for the generator to hedge exposure to its local price is to buy access rights, priced and allocated by a network monopoly. These access entitlements have ex-ante fixed access quantities / prices, which in all probability are incorrect. This inaccuracy may stymie the commodity exchange, reducing productive, allocative and dynamic efficiency.

We note the OFA model is self-funding, which means that for users with access entitlements there is no guarantee that these rights will pay out if the actual capability of the circuits reduces. The access entitlement is also dependent on constrained on generators, non-scheduled generators and load behind the constraint, all of which are inefficiently exposed to the regional price rather than the local price. This resultant "scaling of access entitlements" may reduce the utility of access entitlements and thus affect the commodity exchange's effectiveness (because the confidence to trade is diminished).

Worse still, if there is any error in fixing the access prices and quantities (away from their true cost, only known ex-post) the NEM may suffer from poor coordination of generation and transmission investments anyway. For example, CS Energy doubts the OFA's Long-Run Incremental Costing pricing methodology ("LRIC") will provide efficient signals to generators because it is impossible to quantify the costs of the shared network in advance. We see similar problems with other approaches such as "deep" charging or Long-Run Marginal Costing methodologies, which prove the subjectivity on pricing and allocating shared network costs on participants. Differences in these pricing methods and the widely varying signals they produce show how easy it is for the "locational signal" to lead to inefficient decisions. Under the OFA model this is exacerbated by the issue of setting prices with multiple simultaneous requests for access entitlements.

CS Energy believes the fundamental problem with the OFA proposal is that it is neither market-led planning nor central planning, but a combination of the two. A central planner has to set prices and quantities of access yet generator participants have to request access and pay. The planner leads the generator to make a decision in the OFA model with the publication of LRIC prices and access quantities. Whether or not this is an efficient decision is down to the accuracy of the price schedule.

We doubt whether the expansion schedule from which LRIC access price is calculated could ever be determined to be efficient given the Regulator presently only approves revenue for the next 5 year period and RIT-Ts are run on individual upgrade projects for the forthcoming revenue determination. If generators are signalled to invest through a dubious LRIC expansion plan we can only conclude the assets may be inefficient. We do not believe the assets to provide the Firm Access Standard can be deemed to be efficient just because the generator or the "market" requested them. By contrast the existing arrangements of the RIT-T, APR, NTNDP and revenue reset processes of the Regulator are far more transparent indicators that incentivise a generator where to connect to the transmission system. The present arrangements deliberately do not lock in the network monopoly, Regulator and transmission users to the building of assets and payment of charges for periods into the future in the same manner as the OFA proposal.

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[1] Transmission Network Use of System charges, such as that used in the GB power market, which has a single price and imbalance market – generators pay locationally varying charges representing LRMC of the network. This incentive is needed because there is no incentive in loss factors or imbalance prices to incentivise efficient location of generation. This is in contrast to the NEM which has regional prices, marginal loss factors and constrained off risk which incentivise efficient location of generation

[2] Frequency Control Ancillary Services.

**In summary**

CS Energy believes the commodity exchange function of the NEM is of primary importance. This requires some approximation in pricing to facilitate trade by pooling participants with diametrically opposing risks. In doing so it ensures transparent and effective allocation of resources throughout the sector.

The NEM's encouragement of the commodity exchange function does not result in material productive and dynamic inefficiencies because there remain incentives on participants to minimise transmission costs.

The OFA proposal aims to "fix" immaterial inefficiencies (such as disorderly rebidding and unproven failures in investment co-ordination), with access entitlements that cannot be priced and allocated efficiently into the future. Because shared transmission costs cannot be priced and allocated efficiently into the future it could lead to inefficient behaviour and at worst, discourage of the commodity exchange function of the NEM.

CS Energy is also worried that the proposal will be used as a form of regulatory opportunism, whereby generators will be forced to acquire access entitlements due the prisoners' dilemma in exercising an option to "go-firm". For participants this is a high risk game that may result in inefficient decisions to which participants will have to pay the consequences. The proposals as they stand envisage a period of transitional access entitlements after which generators must pay for access. Given CS Energy will have to pay for sunk network costs, presently built for consumers, this will represent a wealth transfer from consumers to producers for no benefit. There is no benefit to generators which remain exposed to the cost of congestion, through volume risk[3], as the access entitlements only entitle generators to a share of network capability, equivalent to the level of access already received.

[3] This is called "Access entitlement scaling" in the Optional Firm Access model