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Mr John Pierce
Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Dear Mr Pierce

**Transmission Frameworks Review: Analysis of Deep Connection Charges**

Alinta Energy recently submitted a detailed submission in response to the Australian Energy Market Commission's Transmission Frameworks Review, 1st Interim Report (the Report).

The Report represents a significant milestone in the process of fully analysing and addressing transmission and related matters confronting energy market participants. Appendix D of the Report addresses the issue of deep connection charges.

Alinta Energy's submission addressed the issue of deep connection charges in relation to the International Power- GDF Suez integrated model. The submission did not respond directly to the matters raised in Appendix D of the Report.

While Alinta Energy's formal submission stands on its own, the purpose of this letter is to discuss the matters raised in Appendix D and make further comment in relation to the debate between the strong locational signal benefits of deep connection charges and the probable implementation issues.

**Difference between super-shallow, shallow, deep connection charges**

The AEMC makes the point that new generators in the National Electricity Market (NEM) pay shallow connection charges and that it understands that generators who connected prior to the NEM paid super-shallow connection charges.

The AEMC provides no explanation about this latter claim and Alinta Energy welcomes further details particular in the circumstances where centrally planned transmission and generation decisions by state electricity businesses may have effectively ensured the issue of connection costs was largely irrelevant.

In relation to the first point, Alinta Energy notes the view that Chapter 6A of the National Electricity Rules provide that generators should not be charged costs associated with the shared transmission network.

While this is generally assumed to be the case, Alinta Energy notes that experience suggests that some generators upon pursuing connection may be requested to pay for upgrades in infrastructure that will be utilised by a host of parties beyond their unique connection. This is inconsistent with shallow connection as conceived by the AEMC.

As outlined by Dr Biggar in his 2009 paper *A framework for analysing transmission policies in the light of climate change polices* it is unclear that a shallow connection charging regime is definitively in place in the NEM. Dr Biggar went on to say "'it is not possible to state definitively that the current charging policy in the NEM is inconsistent with such a policy of 'deep connection charges'".

As such, and in the context of generators comments on connection charge transparency generally, a deep connection charge may not represent a large departure from current experience in the NEM, but will have the benefit of providing added certainty about which charges will be paid and what the benefits of paying such charges are.

**Deep connection charge design**

Alinta Energy agrees that a deep connection charge regime:

- provides a strong locational signal;
- requires the capacity of existing shared transmission network being defined and allocated amongst incumbents;
- would require new connecting generators to pay for augmentations in some form including, but not limited as mischaracterised by the AEMC's analysis, to TNSPs; and
- would effectively represent an improvement for incumbents by turning the current implicit expectation that access will be protected against congestion into a explicit expectation via a right.

**Impacts of a deep connection charge**

The analysis correctly characterises the implementation issues as the lumpy nature of transmission investment and the impacts on new generation entrants. Alinta Energy would add scale economies to this list.

**Analysis of lumpy investment impacts**

Alinta Energy agrees that transmission investments have lumpy characteristics as investments can often not occur in small increments. For these reasons, the analysis appears to characterise this issue as one where a new entrant will either get tagged with an excess cost or connect without having to pay for shared costs. This is probably not correct.

First, the analysis as presented in Figure D.1 seems to reflect upon a static system which covers one location where an investment lump can be accurately identified over an extended timeframe. It fails to account for transmission investment for load reliability providing associated incidental benefits for new entrant connections over time – not that this discounts the need for new entrants to pay – or the effects of generator retirements over time, and any changing use of the network.

It is equally likely that in a large number of case measures and systems that increase transmission capacity without actual physical augmentation could be funded (i.e. control schemes, communications infrastructure) or when augmentations are required they relate to specific local network considerations. This contrasts with the picture presented in the analysis that intimates that large cost prohibitive investments, disproportional to other investment costs, are the only outcomes likely to be encountered by new entrants as a consequence of deep connection charges.

By contrast one argument used by opponents of deep connection charges has previously been that the charges are too insignificant overall to deter new entry at specific locations. Where correct, this provides a justifiable reason to recover transmissions costs as a consequence of new entry locational decisions overall as the imposition of such a charge will maintain network capability.

Additionally, where tagging does occur and there are multiple locations available for investment this ensures a strong trade-off between locations and absolute transmission costs. Notably, in the face of this trade-off there is no reason a new entrant – or an active TNSP – tagged with a transmission investment should not be able to charge subsequent new entrants – second movers – for their use of the lump in subsequent periods.

The analysis suggests any reimbursement arrangements would add to the complexity of deep connection charges. This seems only to be the case because the analysis considers it so. A capacity rights model works in the gas market and there is no reason that a non-regulated approach to selling capacity on a transmission line can not be adopted.

Next, the analysis lacks proportionality in that it echoes a situation where a very small generator would be tagged with an exceptionally large investment lump. This is an unlikely outcome given the way spare capacity evolves, is likely to exist on parts of the network, and that many small generators – for example small wind farms and gas plant – are likely to be happy to connect without an associated transmission right meaning deep connection charges would not apply. Additionally, a small generator is best placed to purchase an existing right off an incumbent. Trading of access rights is considered part and parcel of an integrated model featuring deep connection charges.

Again, the analysis' claims that an augmentation funded by a new entrant creates cross-subsidies for second movers is essentially a design feature and arises from the restriction on private ownership of transmission capacity and is not an essential feature of deep connection charges of itself. As such, the conclusions on extracting generation in specific locations and impacts on small generators are highly stylised and may never eventuate.

The analysis concludes that this model may disincentivise the purchase of firm access where transmission costs outweigh the advantage of augmenting for the purpose of gaining firm access. The implication being this is deficient to the current transmission framework.

Alinta Energy notes the outcome, supports the view that new entrants should not seek firm access where it is not cost-effective to do so, and suggests this is a preferable approach to not taking locational transmission costs into account, constraining off incumbents, and thereby reducing the value of existing investments.

**Scale benefits**

As investments are lumpy the scale efficiencies should not be ignored. The issue is not stopping a first mover from building an augmentation or directing a first mover to build certain form of augmentation, but ensuring a second mover or TNSP could be permitted to join a first mover to scale up the size of a potential augmentation.

Decision to build scale efficient network investments at an agreed point in time (unlike the previous SENE rule change), where parties are willing to co-fund a current investment by approaching the first mover should be incentivised under a deep connection charges model. Where information is publicly available parties will act on this where they face the costs of transmission augmentations and can reduce these costs by sharing in an appropriately scaled investment.

The analysis has failed to consider such an outcome.

**Impact on generator entrants**

The analysis characterises deep connection charges transparency as an issue. This is not particularly well argued given generators have repeatedly identified that failures in connection frameworks and TNSP obligations currently deliver opaque cost outcomes. Therefore, the process for revealing the methodology behind charges (whether deep or shallow) not the form of charges is the issue.

The analysis argues that locking in a charge creates distortions as the true cost that the charge is intended to reflect is likely to change over time. This again mischaracterises the issue. The deep connection charges model is only seeking to cost the impact of new entrants on the network at a point in time where a decision can be made to avoid unnecessary network impacts.

Any charges that relate to the use of the network on an ongoing basis will be passed on to customers through energy costs. This pass-through can not be avoided once a generator has entered the market; however, the costs arising from locational decisions made at a single point in time (or expanding an existing site) can be avoided by customers if more appropriate locational decisions are made.

Therefore, it is dynamically efficient for new entrants to face the impacts of their decisions as once a location has been selected charges and constraints arising from their use of the network will be smeared across the market whereas prior to entry the costs of a bad locational decisions can be directed back to the entrant under a deep connection charges model and therefore they do not have to be met by customers.

Furthermore, over time changes in load and demand will lead to transmission investment outcomes for the purposes of meeting load reliability including under the RIT-T and therefore this matter, also paid for by customers, can not be resolved by deep connection charges.

**Potential discrimination**

The arguments about discrimination are particularly perverse as they mischaracterise which charges new entrants' face – only those which arise from their locational decisions not all generator driven augmentations. Where an incumbent alters their generation profile by increasing plant size, for instance, they would have to pay deep connection charges.

Again, all maintenance and replacement costs caused by incumbents (and new generators who immediately upon entry are incumbents) are passed onto customers through energy charges. Customers paying, in some form, for network maintenance can not be avoided under any transmission regime. Therefore, it is not an issue for consideration or one that should eliminate the possible use of deep connection charges.

The equation examining the theory for replacing an incumbent with a new entrant suggests a new entrant may be inefficiently deferred if transmission costs for a new entrant are above an incumbent. Two points should be made here.

First, the costs identified under deep connection charges do not disappear if an incumbent does not face them. They are merely smeared across existing players and may disproportionately strand individual assets. This means an incumbent may be put at a relative disadvantage through no choice of their own (the corollary of the analysis' point). In this context, the International Power – GDF Suez perspectives on experiencing the outcomes expected at time of connection are relevant.

Second, the theory behind the formula does not account for the need for financiers to make a return on their existing assets and hence the relevance of the analysis to the market needs to be questioned. Financiers are unlikely to invest in a market where incumbent assets need to be written off as "sunk", from a financial perspective, when they are stranded.

The analysis makes a number of statements about windfall gains and competition which are unfounded and fails to acknowledge that a new entrant will require higher energy costs in a market where they can not be guaranteed access to the regional reference node.

Furthermore, limiting the profitability or certainty of revenue by exposing generators to congestion is most concerning for participants that do not have a large portfolio and hence a natural hedge against congestion. The AEMC could have equally characterised deep connection charges as a method of providing smaller generators and independent generators with greater certainty to invest and compete in the market.

**Summary**

The analysis seems to be suggesting that the implementation issues arising from facing a locational charge are more concerning than the current levels of inefficiency arising in the NEM from poor locational decisions. This position is contested.

Unfortunately, the analysis has been written with a pre-determined expectation that deep connection charges can not be implemented despite existing generators and drivers of significant new entrant generation – who would be required to face deep connection charges - arguing for such a model over the course of numerous years.

In fact, generators generally have argued against the introduction of any form of charges outlined by the AEMC with the exception of those private generators who support deep connection charges because they best resolve the primary issue: poor locational decisions causing congestion.

**Model supported by Alinta Energy**

The basic requirements to guarantee the financial viability of any power project are:

1. a contract for long term access to fuel for the life of the investment which provides certainty with respect to price and volume;

2. a contract market that can provide creditworthy transparent and liquid management of price volatility for the life of the project (i.e. price certainty);
3. the ability to forecast with a high degree of certainty the quantity of energy that can compete for dispatch in the market at the regional reference node for the life of the project, (i.e. quantity certainty).

Currently, the NEM as described by the AEMC, allows investors to appropriately manage the first two risks, but not the third. A lack of certainty with respect to the quantity of energy that can compete for dispatch at the regional reference node leads to revenue uncertainty.

The more concerning congestion is where generators can be constrained off due to other generators investment decisions which could result in large and enduring constraints.

There is a view that:

- without an understood level of certainty with respect to access to the market, especially as spare capacity on the network is used and congestion increases, there is uncertainty with respect to revenue and consequently recovery of investment costs is less predictable;
- for any investment there is little value in sourcing materials and inputs even where demand has been identified if there is no certainty that you can compete alongside competitors;
- uncertainty arises if there is a risk that part of or an entire asset may be stranded due to congestion which arises from others investment decisions; and
- given that generators can't disconnect and join another grid in another region, the biggest hurdle for investors is knowing once they have sunk their investment that they can compete in the wholesale contract market based on the full capacity of their plant alongside every other generator, when they want to make product available, in order to recover the costs of that investment.

Thus it can be conceived that the current transmission frameworks do not provide appropriate revenue certainty for investors. Alinta Energy agrees that deep connection charges present a number of practical difficulties; however, such a model should not be ruled out on the basis of those difficulties but be assessed in accordance with the principles above to support financial viability of incumbent and new entrant generation.

**Conclusion**

Alinta Energy's formal submission presents its positions on the issues contained in the Report. This letter acknowledges that a final or preferred option has not been presented at this stage and makes the points above for the purpose of furthering discussion on deep connection charges.

If you wish to discuss these matters please contact me on, telephone, 02 9372 2633.

Yours sincerely,

**Jamie Lowe**
Manager, Market Regulation