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Clean Energy Council

Friday, 19 October 2012

John Pierce, Chairman
Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235
By Email

Dear John,

RE: Clean Energy Council Submission to EMO0019 Transmission Frameworks Review: Second Interim Report Optional Firm Access

Once again the Clean Energy Council (CEC) welcomes the opportunity to participate in this stage of the Australian Energy Market Commission's Transmission Frameworks Review.

The CEC is the peak body representing Australia's clean energy and energy efficiency industries. The CEC works with over 550 member organisations and governments to identify and address the barriers to efficient industry development in the stationary energy sector.

The attached submission is the CEC's second response to the Second Interim Report which represents the view of the majority of our members and focusses on the Commission's proposed 'Optional Firm Access' model. To that regard the CEC expresses significant concern with many aspects of the proposal and queries the merits of continuing to advance it.

As noted in our previous submission the clean energy industry is expected to be the single largest investor in new transmission infrastructure in the coming years. The CEC expects that the Optional Firm Access model would be more efficiently considered with a holistic approach that takes account of market externalities such as emissions and renewable energy targets.

Please do not hesitate to contact the undersigned for any queries regarding this submission.

Yours sincerely,

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Executive Summary

The Clean Energy Council (CEC) welcomes the opportunity to contribute to another important stage in the Australian Energy Market Commission's Transmission Frameworks Review. This submission entirely focusses on the proposed Optional Firm Access (OFA) component of the Review.

The CEC commends the Commission on the efforts to date on this intensive review and equally intensive level of stakeholder engagement. Collectively, members of the CEC are expected to be the largest investor in new transmission infrastructure in the NEM in the coming 10-15 years. Clearly, efficiencies in the NEM's transmission frameworks are of the upmost importance to the CEC's members.

As stated in our earlier submission, the CEC does not support adoption of the Optional Firm Access model in its current form. The CEC's previous submission also made clear that the Commission's proposed 'status quo' alternative would only be supported if the necessary changes were made to clause 5.4A which clearly obligate TNSPs to undertake the studies necessary to allow proponents to assess risk and overcome the current perverse incentives for TNSPs to 'over-connect' generation to their networks.

This submission provides the evidence supporting the CEC's position on OFA, including:

- ***Issues proposed have low materiality*** – The materiality of the issues that this model proposes to address is considered to be minimal.
- ***OFA model is unlikely to address the issues*** – Even if the issues were material, the OFA model is considered unlikely to address them, and due to complexity carries a high risk of producing unintended consequences.
- ***Implementation and operational costs will be high, and will exceed benefits*** – The OFA model is acknowledged throughout the Commission documentation to involve substantial complexity, and further complexity is likely to be revealed as the implementation process advances. Significant areas of administrative burden and regulatory cost are identified. This means that implementation costs are likely to far exceed the benefits of this model.
- ***Transitional arrangements constitute a significant barrier to new entrants*** – CEC members have very serious concerns about the transitional arrangements proposed, since they will constitute a significant barrier to new entrants.

Each of these aspects is outlined in detail throughout this submission.

The CEC recommends that this submission is considered in conjunction with the previous documents submitted. In particular the Commission should have regard for the 1993 National Grid Management Council document in which the Council recommends the market framework which the NEM now takes. The CEC believes that the separation of roles and requirements for regulation outlined at the inception of this market are particularly pertinent to the Commission's proposals.

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1 Cost-benefit analysis

The CEC is of the view that the potential benefits of the OFA model (if any) are minimal, and the costs of implementation will be significant. Since there is little evidence that the benefits would outweigh costs, the CEC cannot not support implementation of the OFA model. The reasons for this view are outlined in the following sections.

1.1 Materiality of the problem

Market reform, and particularly significant market reform such as that proposed with the OFA model, must be founded on a clear identification of market flaws that need to be addressed. These supposed flaws in the current NEM design were not clearly articulated in the documentation provided by the Commission. However, it is deduced that they are seen by the Commission to be the following:

- Insufficiently deep and liquid contracts market, due to generators' lack of ability to procure firm financial access
- Inefficient network investment due to insufficient locational signals for the co-optimisation of new generation and transmission investment
- The impact of disorderly bidding on market efficiency
- Inefficient operation of transmission networks, due to lack of incentives (for efficient operation)
- Lack of firm inter-regional financial rights

The CEC does not believe that any of these constitute a sufficiently significant market issue or flaw in the present NEM design to warrant the scope of the reform that has been proposed. The proposed OFA model, with significant complexity and implementation cost, is therefore likely to be a disproportionate response to problems of low materiality. It should also be noted that the OFA model itself presents high and uncertain commercial risks to many market participants, including CEC members.

1.1.1 Contracts market

The NEM is recognised internationally as one of the most efficient markets in the world, with others using the NEM as a guide for the reform of their own markets. As an energy-only market with a high market price cap, the NEM has avoided many of the pitfalls and challenges that other markets face. Despite significant spot price volatility (which is intended in the NEM design), market participants continue to operate successfully, underpinned by an active contracts market. Significant numbers of new entrants are interested in investing in the NEM, demonstrating their confidence in the present market design, and their ability to support their investments through a sufficiently deep and liquid contracts market.

1.1.2 Locational signals

There are already substantial locational signals to drive generation to locate in areas where the transmission network is robust. Developers take Marginal Loss Factors and the risk of network congestion seriously in their locational decisions, since these have a substantial impact on generator revenues in the present market[1]. No recent evidence is apparent that these locational signals are insufficient, and that inefficient locational decisions are being made[2].

The RIT-T process itself also provides strong locational signals to generation developers. Generators will tend to find it more profitable to locate in areas where they believe that the RIT-T will allow new transmission capacity to be built in the future, since this will reduce their future risks of congestion. The RIT-T process is required to consider the full 'market benefits' of possible alternatives, which includes considering the costs of future generation components of those alternatives. Augmentation to a remote location to provide market access for inexpensive generation could be justified under the RIT-T, even where a less expensive network option (that provided access for higher cost generation) was possible.

In this way, the RIT-T process already conducts a co-optimisation of generation and transmission alternatives, and therefore sends implicit locational signals to generation proponents. While the RIT-T process is by necessity conducted in a centralised fashion, it does involve an extensive stakeholder consultation process, which helps to ensure that the best possible information is utilised.

1.1.3 Disorderly bidding

Disorderly bidding does occur, but only during limited circumstances in certain locations. Furthermore, the impact of disorderly bidding on market efficiency is likely to be minimal. As stated by the Commission in the Congestion Management Review Final Report[3]:

> *Analytical work by the Australian Energy Regulator (AER) and by us suggests that productive inefficiencies from dis-orderly bidding have been relatively minor to date.*

And further[4]:

> *Overall, with the exception of the Snowy region, congestion did not appear to be a major problem in the NEM.*

The modelling commissioned by the Commission from Frontier Economics also suggested that the costs of disorderly bidding are small[5]:

[1] Note that the CEC's proposed enhancement of Clause 5.4A made in the previous submission would enable the market to more efficiently capture and manage these locational signals.
[2] There is evidence to suggest that some early wind farm investments were made despite poor MLF outcomes. The renewable industry has since become far more aware of the significance of MLF assessment for project development, and now considers MLFs to be an important locational driver.
[3] AEMC, June 2008, *Congestion Management Review Final Report*, p.viii.
[4] Ibid, p.13.

Frontier found that production costs in the scenario with mis-pricing across the entire NEM were $8.01 million higher than in the base case in which all generators were assumed to bid their capacity at short-run marginal cost. This represented 0.47% of the NEM's annual total production costs of more than $1.7 billion, which indicated that the impact of constraints binding and causing inefficiency through mis-pricing was relatively low.

Therefore, the CEC is of the view that present market mechanisms (such as positive flow clamping) are sufficient to manage the issues related to disorderly bidding in a manner that is proportionate to the scale of the problem.

1.1.4 Transmission network operational efficiency

It is possible that transmission networks are being operated in an inefficient manner, but again, no evidence has been presented to quantify this issue. It is also questionable whether the proposed incentives would increase operational efficiency.

The CEC considers that the greatest risk to ongoing operational efficiency of the NEM's networks is the current ability for TNSPs to completely avoid undertaking the necessary studies to inform connecting generators of the *power transfer capability* of their networks. As discussed in the CEC's previous submission there are currently perverse incentives which allow TNSPs to over allocate generator connections with the goal to receive profits from these connections, while making little consideration for the capability of their own networks. This is likely to lead to highly inefficient investment and operational efficiency in the long term.

The rules intended that an obligation was placed on TNSPs to consider the capability of their networks in more detail and advise (but not guarantee) connecting parties of this capability. TNSPs are the only party with the requisite information to do this efficiently. To date TNSPs have clearly demonstrated a culture of avoidance of this matter under the guise of it placing some form of 'guarantee' on them which they then have no control over. *Power transfer capability* has nothing to do with a guarantee – it's simply sensible and efficient engineering practice. Clause 5.4A needs to be reinforced to ensure that this practice can no longer be avoided.

1.1.5 Inter-regional basis risk

Inter-regional basis risk is managed in the present market via the auctioning of inter-regional settlement residues. While this mechanism does not provide a perfect hedge (due to rare periods of counter-price flows), it is not clear that it is insufficient, and warrants major market reform.

[5] Ibid, p.15.

1.1.6 Cost benefit analysis

The Commission has claimed that the benefits of implementing the OFA model will depend upon the behaviour and choices of market participants and therefore is difficult to quantify. While this may be true to a certain extent, it is imperative that at least an attempt at quantification is made. It should be possible to define scenarios that represent realistic boundary cases (for example, if uptake of firm access is very pervasive, or if uptake of firm access is very low). Furthermore, there is no reason why the cost of the flaws in the current access regime (for example, measured by the increase in energy costs caused by network congestion) cannot or should not be established through AEMO's dispatch record. Finally, the implementation cost of introducing OFA, including the cost to market institutions and market participants can be estimated with reasonable accuracy. This would provide NEM participants with at least some measure of the relative costs and benefits, allowing a quantitative comparison to be conducted.

The CEC requests that if the Commission believes that these issues are in fact highly material, they provide rigorous evidence to demonstrate this. The Commission acknowledges that the implementation costs "are likely to be significant"[6]. It is therefore essential that materiality is clearly articulated and quantified, and a thorough cost-benefit analysis conducted before the OFA model proceeds any further.

[6] AEMC, Second Interim Report, p.45.

2 Effectiveness of the OFA model

The Commission proposes that OFA model provides the following benefits[7]:

- ***Improved support for a deep and liquid contract market***, by providing a mechanism for generators to obtain firm financial access, and a mechanism for obtaining inter-regional access.
- ***More efficient investment in generation and transmission***, by establishing cost-reflective locational signals for generators, market-led development of transmission and a mechanism for expansion of inter-regional transmission.
- ***More efficient dispatch of generators***, by reducing incentives for disorderly bidding.
- ***More efficient operation of transmission networks***, by exposing TNSPs to some part of the value of network availability.

The CEC is of the view that the OFA model will not provide these benefits, or will only do so in a limited fashion. The reasoning for this view is explained in the following sections.

2.1 Impacts on the contracts market

2.1.1 Firm access, not fixed access

The level of access provided to generators is defined as firm, not fixed. Generators have no guarantee of access to market, and must still take into account the following possibilities:

- The asset may experience a forced outage
- A lower NOC tier may be declared, significantly reducing access to market

Forced outages are relatively common for peaking assets, which are the main providers of the types of contracts that would be most supported by the provision of guaranteed access. In fact, the *incidence of forced outages is generally considered to be the most important determining factor* in the risk associated with contracting (in terms of access to market). The risk of a forced outage during high priced periods is generally considered to be greater than the risk of congestion (in most locations). This indicates that the OFA model will provide limited benefit in reducing these risks.

Furthermore, since a lower NOC tier can be declared, generators have no guarantee of access. The conditions under which lower NOC tiers are declared will correspond to situations when the physical network capacity is reduced, which are the main times when constraints will bind in the present market. This indicates that at the very times under which firm access would be most desired, it will not be provided. TNSPs will have significant incentives to define NOC tiers in a highly conservative fashion, which undermines the value of firm access. The setting of NOC tiers will be a complex process in which TNSPs are expected to exercise substantial power

[7] AEMC, Second Interim Report, p. 45.

through access to asymmetric information and the necessity for complex modelling processes (which can be gamed due to high uncertainty over a large range of input parameters).

As defined, the Firm Access Standard (FAS) is not like a simple reliability standard that prescribes a minimum level of service (such as 0.002% unserved energy). Instead, generators must take into account the expected occurrence of reduced NOC tiers, under which they receive reduced access. There is no limit on how frequently these reduced NOC tiers may occur.

In the present market, generators have a reasonable knowledge about the constraints that their assets are subject to, and how often they typically bind. They also have a reasonable understanding of the dispatch outcomes that are likely to occur when constraints bind. By contrast, under the OFA model, even generators with firm access may receive less certainty about their future access to market (or, at least, experience an increased complexity in attempting to predict future access). They would need to understand not only how often constraints might bind, but also how frequently reduced NOC tiers will be declared. Depending upon how NOC tiers are triggered, this could be challenging. Furthermore, it is acknowledged by the Commission that TNSPs will have incentives to manipulate the setting of NOC tiers[8] (discussed further in section 3.1.9). It is unclear how these perverse incentives would be managed or regulated.

These factors could mean that the OFA model provides limited benefit, even to those generators who hold firm access. It also means that generators may find it challenging to accurately assess the value of firm access, given the large uncertainty in how it might change their access to market. This may cause inefficient over-procurement of firm access, leading to inefficient over investment in the network. The increased costs will ultimately be borne by consumers.

2.1.2 No net benefit to the contracts market

The perceived benefit to forward trading in the contracts market is will only relate to those generators who have purchased (or were allocated) sufficient firm access to cover their contract volumes. However, those who do not hold sufficient firm access face increased risks in the contracts market[9], and therefore likely to contract less. If they are particularly risk averse, non-firm generators may even reduce their contracted amounts by more than the amount that firm generators increase their contracted amounts. This suggests an overall net zero improvement, or possible a detrimental impact, in terms of market risk and uncertainty.

2.1.3 Volatility and unpredictability of congestion

The Commission suggests that congestion tends to be volatile and unpredictable, which then reduces the level of generation that a generator can confidently hedge. However, generators do typically have a reasonable idea of which constraints they are involved in, the magnitude of

[8] AEMC, Technical Report: Optional Firm Access, p. 31, 35.
[9] As illustrated by the middle term in equation 2.9, Technical Report, p. 13

their coefficient in the relevant constraint equations, and their offered capacity. These factors determine their dispatch when constraints bind. Therefore, the present system provides generators a reasonable degree of confidence over their level of dispatch (upon which they will base their contracted amounts). In conjunction and an out-of-service transmission lines could further reduce their dispatched level, but this risk is unaffected by OFA. Therefore, the CEC does not see that the OFA model provides any material additional confidence to generators around contracting.

2.2 Locational signals

As discussed in section 1.1.2, locational signals are provided in the present market in a number of ways:

- Marginal Loss Factors
- Impacts of present and future congestion on dispatch (and therefore revenues)
- Anticipated network development under the RIT-T, due to the impact this would have on future congestion.

The expectations of generation proponents over future RIT-T assessments are an important component of the locational decision. The OFA model proposes to remove this component, and replace it instead with access pricing signals[10].

As discussed in section 3.1.4, the proposed access pricing methodology is highly complex and prone to the application of inaccurate assumptions (which could lead to arbitrary and high cost results). The complexity of the system could also mean that generators make less efficient choices. For example, the challenges inherent in forecasting the incidence of reduced NOC tiers could make it difficult for generators to accurately determine the value of firm access during the procurement process. This would then make it difficult to assess whether a generator should pay a fee to procure firm access, or simply participate in the market on a non-firm basis. This has the potential to undermine the Commission's purported benefits of co-optimisation generation and transmission investment. This is discussed further in section 3.1.4.

2.3 Disorderly bidding

The Technical Report claims that the OFA model will 'solve the problem of disorderly bidding', where this is narrowly characterised as bidding at the market floor price when there is intra-regional congestion[11]. However, the proposed OFA model can actually cause new situations that incentivise non-cost reflective bidding and therefore lead to dispatch inefficiency. This is recognised in the Second Interim Report, in that the OFA model is described to "*create a strategic "tug-of-war" between firm and non-firm generators that would tend to drive dispatch*

[10] AEMC, Technical Report: Optional Firm Access, p. 63.
[11] Ibid, p. 12.

of firm generators towards the amount of firm access that they hold, and drive dispatch of non-firm generators towards whatever level of transmission capacity is left"[12]. This indicates that non-cost reflective bidding is also incentivised with OFA, and could negatively impact upon dispatch efficiency.

This is illustrated in Figure 1, adapted from the example provided in the Second Interim Report[13]. Under the present settlement arrangements, G3 would be dispatched to 200MW, G1 would be dispatched to 600MW and G2 would not be dispatched. The RRP would be $50 (set by G1), and the constraint would not bind. G3 would have no interest in causing the constraint to bind, because the price would continue to be set by G1 at below G2's short run marginal cost.

Applying the OFA model the picture changes: G2 would have an incentive to cause the constraint to bind, so that compensation payments will be received. G2 will bid just over 300MW at just below the SRMC of G3. The dispatch will then be:

- G2 dispatched to 300MW (at a bid price of 20^-$)
- G3 dispatched to 200MW (at a bid price of $20)
- G1 dispatched to 300 MW, setting the RRP to $50.

Based upon equation 2.2 in the Technical Report, G2 will now receive revenue of:

$50/MWh * 300MW + ($50/MWh - $20/MWh)*(500MW – 300MW) = $21,000/hr

G2's operating costs will be $60/MWh * 300MW = $18,000/hr (providing a profit of $3,000/hr)

If the bid prices in the present NEM settlement scenario are considered to be an indicator of short run marginal cost, then total system costs have increased under the OFA model scenario, from $34,000/hr to $37,000/hr (calculated based upon the dispatch under each scenario).

Thus, this example clearly illustrates that the OFA model can cause scenarios where disorderly bidding will occur (where it would not in the present system), and this could have a detrimental impact upon dispatch efficiency. In this scenario, G3 may respond by withdrawing capacity to alleviate the binding constraint. If G2 responds by increasing the amount of capacity bid below cost (to maintain the binding constraint), this will lead to increasingly inefficient dispatch outcomes.

[12] AEMC, Second Interim Report, p. 53.
[13] Ibid, p. 30.

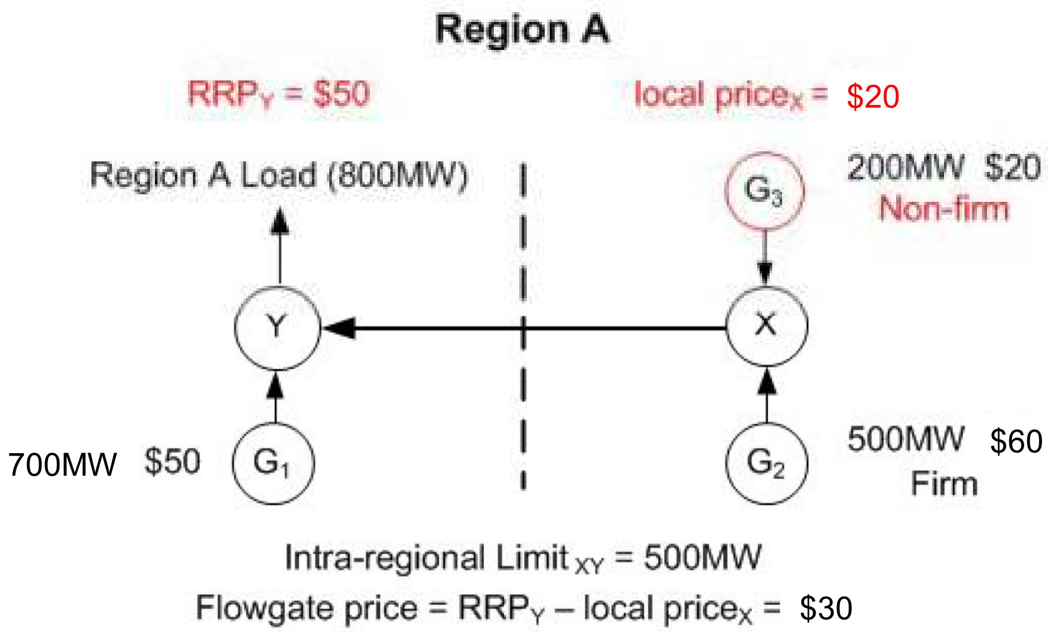

Figure 1 - Example of disorderly bidding incentives in access settlement.

Thus, the CEC concludes that while the OFA model may reduce disorderly bidding in some circumstances, it will clearly increase disorderly bidding in other circumstances. The net benefit of the OFA model on disorderly bidding and dispatch efficiency therefore remains unclear.

2.3.1 Constrained-on generation

It should be noted that the OFA model does not address the disorderly bidding by constrained-on generation. Constrained-on generators will continue to receive the RRP, even if their local marginal price is higher. This incentivises them to bid the market price cap to avoid being dispatched when the RRP is below their short run marginal cost.

2.4 Operation of transmission networks

The proposed OFA model aims to provide incentives to TNSPs to operate their networks more efficiently by exposing them to some of the costs of network congestion (particularly during high priced periods when access is most valuable to generators). However, TNSPs already adopt prudent practices in construction work and when planning scheduled outages. There is no evidence that OFA model would lead to further improvement in this aspect. If commercial incentives are considered necessary, there are likely to be far simpler solutions than those proposed by OFA.

3 Implementation costs

The complexity of the proposed OFA model is acknowledged throughout the Commission's documentation, and further complexity will almost certainly be revealed throughout the implementation process. Complexity is undesirable for a number of reasons:

- Complex market reform will be costly to implement
- The risk of unintended consequences is high
- Increasing the complexity of the market could inhibit the entry of new market participants

The CEC identifies a number of areas where there is likely to be additional complexity, beyond that acknowledged in the Second Interim Report and the Technical Report. These are outlined in the following sections. This does not form an exhaustive list, but rather highlights areas where the full challenges inherent in implementation of the OFA model may not have been adequately identified or considered.

3.1.1 Power Purchase Agreements

Most large-scale semi-scheduled generators in the NEM operate under Power Purchase Agreements (PPAs) which operate essentially as a 'contract for difference'. The retailer agrees to purchase all of the output of the generator at any time, for a pre-agreed fixed price.

Depending upon the formulation of the individual PPA, some semi-scheduled generators may be exposed to substantial risk upon the introduction of the OFA model. When constraints bind, a semi-scheduled generator on a PPA who is non-firm may be required to pay compensation to other firm market participants, thus receiving only the local marginal price (which could be $0/MWh in a renewable-rich area). At the same time, if the RRP is high during that trading interval their 'contract for difference' PPA may require them to pay their retailer the difference between the RRP and the PPA fixed price. Under these circumstances the semi-scheduled generator would certainly 'regret being dispatched', and would be incentivised to bid at a very high price to avoid dispatch. Semi-scheduled generators without 24hr trading desks will find this challenging to implement reliably, and will thus be exposed to substantial risks[14].

This effect constitutes a twin negative impact upon semi-scheduled generators – not only does the (non-firm) generator lose revenue (via the payment of compensation), they also incur an additional (potentially substantial) cost to meet their contractual requirements. In order to avoid this issue, they would need to procure sufficient firm access to cover their entire capacity, which is recognised in the Technical Report to be an uneconomic strategy for semi-scheduled generators[15]. This may give a firm generator subject to the same constraint as a

[14] The CEC considers that this is likely to present a new entrant or up-scale barrier for smaller and subsequently lower resourced operators.
[15] AEMC, Technical Report: Optional Firm Access, p. 84.

non-firm generator an opportunity to strategically cause binding constraints during high price periods in order to drive the non-firm competitor out of business (generally reducing supply and increasing market prices consequentially).

These effects will be specific to each PPA, since they are all formulated in slightly different ways. It is expected that upon the introduction of the OFA model, current contracts would be subject to a 'market disruption' which is likely to be considered a force majeure event. The CEC therefore expects that all PPA contracts will require re-negotiation under implementation of OFA (regardless of whether those generators hold firm access or not). This alone places a substantial administrative cost burden and additional risk on semi-scheduled generators in the market, the vast majority of which operate under long term PPAs. Similar effects may be experienced by other market participant types on other types of contracts. This administrative burden and additional risk experienced by market participants upon the onset of the OFA model must be quantified by the Commission to allow an appropriate cost-benefit analysis to be conducted.

3.1.2 Market-led network development

Fundamental NEM design dictates that a profit-driven monopoly owns, operates and augments the NEM's networks, with regulation applied accordingly. The OFA model intends to promote market-led investment within the monopoly controlled asset base, thereby reducing network regulation. This is unlikely to be feasible – it is an inescapable fact that networks are by nature a monopoly asset, and must therefore be regulated. In reality, the regulatory burden will simply shift (rather than reduce), and under the proposed arrangements is likely to become significantly more difficult to implement. As stated by the Commission, under the OFA model, the requirements for regulation around access issuance, pricing, revenue and quality remain. It is the CEC's view that significant regulation will also be required around the implementation of the access pricing methodology. The proposed methodology involves inherently complex calculations with a large number of uncertain input assumptions, and there is a real risk that TNSPs can use advantages such as asymmetric information to inflate access prices, even while applying the regulated methodology. Thus, the application of the methodology will need to be much more closely regulated than has been anticipated by the Commission.

The Commission has not presented any convincing analysis to demonstrate that this approach (attempting to include some market-led investment) will produce better outcomes than the present approach, particularly given the significant increase in regulatory complexity. In our view the proposed arrangements fundamentally impede efficient regulation and contradict the intent of the National Electricity Objective for efficient investment for the long term interests of consumers.

3.1.3 Centralisation of network planning

Significantly, the proposed OFA model proposes a far more centralised approach to decisions around network planning than is utilised at present. Under the OFA model, the TNSP[16] will play a key role in determining access pricing, using the LRIC methodology. The definition of both the baseline and the adjusted expansion plans will be extremely subjective, and highly dependent upon the TNSPs expectations around future demand, generation plantings, firm access requests and power flows in different locations, far into the future. The possibility for the use of erroneous assumptions will be high, leading to non-cost reflective access pricing. This could lead to locational investment decisions that far are less efficient than under the present system. Furthermore, TNSP's assumptions about the future will dictate access pricing. These assumptions therefore become the driving force behind generator locational decisions.

Consider, for example, identical generators seeking to connect at different locations where the augmentation costs to both sites is identical, the initial spare capacity in the network at each location is identical, and anticipated demand growth at each site is identical. Under the proposed (Long Run Incremental Cost) methodology the two generators could face significantly different access prices, depending only upon the TNSPs expectations of future firm access requests at those locations. A location which the TNSP expects will have many firm access requests will experience an access price similar to the LRMC pricing methodology, while an identical alternative site that is not expected to have any new firm access requests will see connection costs more similar to deep connection charges. Therefore, under the OFA model, the TNSP's views about future generation (and other parameters) strongly drive the locational signal seen by market participants.

Contrary to the claims in the Commission's documentation, the methodology is neither market-based nor market-led. It is a centralised planning process that is led by the TNSP (or whatever body is responsible for determining access pricing). Arguably, moving away from the present RIT-T (which includes stakeholder involvement) towards the OFA model approach (which has minimal suggestion of stakeholder involvement or regulation) is a retrograde step.

Notably, under the OFA model, if TNSPs are unable to accurately forecast the distant future and determine inaccurate access pricing this could lead to inefficient investment outcomes which are far worse than those observed at present. Given the 'crystal ball' nature of any long term forecast, and the conservative nature of TNSPs (discussed below), there is therefore a significant risk that implementation of the OFA model could lead to significant increases in costs for consumers over the long term. For these reasons and those expressed in the earlier submission on connections the CEC does not believe that putting such a high degree of faith in TNSPs' ability to predict the distant future is either sensible or efficient.

[16] Or, equivalently, whichever body is responsible for determining access pricing.

3.1.4 Access pricing

It is proposed that access pricing be calculated using a "Long Run Incremental Costing" (LRIC) methodology. This methodology aims to determine the 'baseline' costs that would have occurred if the firm access were not required, and subtract this from the 'adjusted cost' (the cost of the augmentation required to provide firm access).

While this stylised LRIC methodology appears hypothetically sensible, it is likely to be extremely difficult to apply efficiently in practice. It is likely that it will be challenging to robustly estimate most of the model variables required for application of the proposed access pricing methodology.

The determination of baselines will be non-trivial. This requires a very long term (30 year) projection of demand growth and other variables that affect network flows. The last few years have demonstrated the challenges inherent in demand forecasting, and with increasing growth in energy efficiency, embedded generation, demand management and non-trivial loads such as electric vehicles over the coming decades, demand forecasting is likely to become even more complex and uncertain in the future. Since firm access prices cannot be revised in light of new or changed information (once settled), they effectively 'lock in' any errors made in the TNSP's calculations over the long term. Furthermore, the Commission's documentation does not appear to suggest a strong role for stakeholder or AER engagement during the application of the access pricing methodology, which would deny any opportunity for improvements to the quality of the assumptions utilised.

The baseline transmission network expansion plan will need to satisfy RIT-T criteria. It is conceivable that a TNSP may identify two augmentation options that have similar market benefit under RIT-T, but substantially different benefits to generators. It would then be unclear which of these baseline expansion plans is the most likely or appropriate for comparison with the adjusted expansion plan. Increasing penetration of embedded generation capable of providing network support will further complicate these projections. For these reasons, there is a potential that generators would want to dispute the TNSP's planning decisions, which will necessitate the definition of a dispute resolution process and closer AER involvement.

TNSPs typically apply error margins of around -10%, +30% to future augmentation project costs, due to uncertainties in future demand growth, land planning approvals (which influence the final design and construction costs), exchange rate, material and labour costs, funding costs, regulatory and environmental constraints, and so on. Unless the LRIC can be clearly defined to lead to consistent planning outcomes and cost projections, this is potentially another area of on-going dispute between TNSPs and generators seeking firm access.

Consider now the calculation of the initial spare capacity. This modelling will be conducted in a base year (the first year of the access request). In order to model this base year, it is likely that a reference year will need to be selected. Half hourly demand profiles, generator bids (for all market participants), transmission constraints etc would then be sourced from that reference year and scaled appropriately to fit the base year. However, recent historical years in the NEM differ substantially from each other such that no one year (or even collection of years) provides a good representation of an "average" year. This detailed modelling will then likely need to be performed over a number of reference years, for each access pricing request[17]. This potentially creates a massive administrative burden for TNSPs (or whoever is ultimately responsible for calculating access pricing). It is assumed that this modelling cost will be paid for by the generators requesting firm access (analogous to the payment for connection studies or a connection application processing fee), but it is important to realise that it creates an additional cost burden that did not previously exist. Ultimately, this cost will be borne by consumers.

The OFA model requires pricing of each firm access request be calculated individually. However, augmentation options and timings for the transmission network in one location will impact on network capacity at a different location. The various options could also alter the contributions of generators to a large number of flowgates. That means the assumptions used for LRIC calculation for firm access at one location will affect the baseline for another LRIC calculation for firm access at a different location, and vice versa. This suggests that it could be extremely complex and challenging to achieve fair and transparent outcomes.

TNSPS are traditionally risk averse and are therefore very likely to use conservative inputs for the LRIC calculation in order to avoid any risk. This action will lead to inefficient 'over-building' of networks, inflated prices for firm access and subsequently costs to consumers in the long term. Furthermore, the complexity of the methodology also means that TNSPs will have substantial opportunity to 'massage' the input data in order to artificially inflate access prices, with detrimental outcomes for market participants and ultimately consumers. This means that comprehensive regulation of the *application* of the access pricing methodology will be necessary, increasing the regulatory burden. Given the huge number of assumptions and the level of technical detail involved in determining access prices, there will be a need for the AER to maintain a substantial technical expertise that it currently does not have. The administrative burden would likely be significant.

These factors will mean that access pricing will be extremely complicated to implement, highly disputable and may not produce meaningful cost-reflective prices. The CEC expects that this would likely remove any locational signal benefits of the OFA model.

3.1.5 Forced firm access

While it is emphasised in the Commission documentation that the OFA model allows generators to choose whether they want to hold firm access (thus being 'optional' in nature), CEC members believe that it is far more likely that all generators will need to procure firm access in order to ameliorate the risk of significantly reduced revenues. This is recognised in the Technical Report through the identification of two possible equilibria[18]:

- All generators are firm and new generators choose to be firm
- All generators are non-firm and new generators choose to be non-firm

[17] As noted in the Technical Report, a new special baseline scenario will need to be created for each new request, in addition to a new adjusted scenario (p. 45).
[18] AEMC, Technical Report: Optional Firm Access, p. 83.

Consider the example of a generator located at the end of an existing radial line which also supplies a small town, the generator has perfectly sized its capacity to match the capacity of the transmission line so that connection costs are efficient. This generator enjoys adequate access to the RRN with minimal congestion, and therefore does not need to procure firm access. However, another (new entrant) generator could choose to connect at the same location and enter into the queue for firm access ahead of the incumbent generator. The access procurement process suggested in the Technical Report[19] suggests that the incumbent will not be notified or given an opportunity to enter into the queue ahead of the new entrant. It appears reasonable to presume that the new entrant can purchase firm access at a low price (since the appropriately sized transmission line already exists), and the incumbent is then left to either:

- Pay compensation whenever congestion occurs. If the new entrant competitor is also sized to match available transmission capacity this could occur very frequently.
- Purchase firm access, which now requires a substantial network augmentation and is therefore costly.

These factors mean that the incumbent will have a strong incentive to purchase firm access at that location, even though they did not desire additional access beyond the non-firm level they enjoyed previously. This could lead to inefficient network augmentation.

For these reasons, it may be preferable to allow incumbents first rights to purchase firm access, ahead of new entrants seeking to connect at that location (or other locations affected by the same constraint). However, this leads to a question of fairness in the queuing process. Allowing incumbents preferential first purchase rights for access in the existing shared network at (presumably) very low LRIC prices presents a significant barrier to new entrants (discussed later in section 4).

3.1.6 Queuing

The access procurement process outlined raises significant questions around the queuing process, which have not been adequately addressed. Queuing will become extremely important under the OFA model, since access pricing will depend heavily upon the order in which generators procure access.

Firstly, it is questionable whether it makes sense for the access price to depend heavily upon the queue order. This could mean that an identical access request days (or even minutes) later could be offered a substantially different price.

Secondly, it is important to consider the level of complexity that will be required to manage the queuing process adequately. Other markets with firm access rights have highly complex rules and policies to manage queuing, and there is no reason to believe that the NEM can avoid similar requirements with the onset of the OFA model. Important considerations will include the level of confidentiality required at each stage during access procurement, and the information that can be provided to the market. In particular, non-firm incumbents will have a

[19] Ibid, p. 47, 48.

significant interest in knowing whether a proponent is seeking firm access in their part of the network, and will want the option to enter into the queue ahead of the new entrant. As discussed in section 3.1.5, if this option is not available incumbents will be forced to purchase firm access, because the risks to future operation of not obtaining firm access are too high.

It is also essential to carefully consider the timeline over which a place in the queue will remain valid, when it will expire (and allow another proponent to access that capacity) and how this will relate to the connection process. Will proponents need to have a completed connection agreement in order to secure a place in the access queue? This would place undue risk on the proponent, since they would likely want to confirm the access price at a particular location before completing the already arduous connection negotiations. However, if the requirements for entering the access queue are too low, proponents will have strong incentives to enter into the queue at numerous locations, locking up the available capacity and subsequently the market.

It is proposed in the Technical Report that Stage 3 of the access procurement process is time limited, but also that proponents enter into Stage 3 in the Stage 2 queue order (which is presumably not time limited). This suggests that proponents can enter into queues for many different nodes at Stage 2, indefinitely locking up available network capacity. A fee would be payable for entering into the Stage 2 queue (to cover the TNSP cost for developing a provisional price), but this cost may not be sufficient to deter this behaviour if it allows access to significant value. This then implies that the Stage 2 queue would also need to be time limited to some degree, but this then increases risks for proponents during the process of bringing their project to market, if other parts of the process progress more slowly than anticipated.

It is likely that proponents will need to negotiate connection agreements and firm access agreements in parallel. This may mean that the queuing necessities for access procurement have serious implications for the connection process, potentially even for proponents who are not seeking firm access. As detailed in the CEC's previous submission the connection process is already a source of significant dissatisfaction amongst generation proponents in the NEM, so it is unlikely that any additional complexity in this process will be looked upon favourably.

Notably, the access procurement process proposed involves many steps which are analogous to the connection process. The CEC's previous submission detailed how the connection process is necessarily prescribed in the rules with the intent to ensure that TNSPs have no latitude for discrimination or inefficiencies to result[20]. Given that the connection process is fraught with difficulties despite this, it will be imperative to define strict requirements for TNSPs throughout the access procurement process, to limit these issues from also being dealt with through this parallel process. For example, clear maximum timeframes for response and clear requirements for information provision should be specified, to provide proponents with clarity over the length of the process. This would also assist in limiting differences in interpretation of the process state by state.

[20] CEC, 2012, *Initial submission to the Transmission Frameworks Review: Second Interim Report*, p-p. 11-12.

3.1.7 Publication of access information

The Technical Report suggests publication of access information on an annual basis, including indicative access prices at all nodes for standard terms and amounts[21]. The CEC is supportive of the idea of annually publishing information regarding the available network capacity at each node. This would assist in improving generator locational decisions even in the present market, making the anticipated occurrence of congestion clear to market participants. Even in the present market, proponents are keen to avoid areas of present or future network congestion, so a clearly published summary of this information should clarify locational decisions. This should be considered for implementation with the Non-Firm Access Model in conjunction with the CEC's proposed enhancements to clause 5.4A detailed in the previous submission.

3.1.8 Robustness of constraint equations

It is understood that the OFA model will rely upon the same constraint equations that are currently used to manage dispatch in the NEM, and this is thought by the Commission to minimise the challenges in implementation. However, it should be noted that the constraint equations are very numerous and extremely complex, and are constantly under revision and improvement. They do change regularly, as network augmentations are implemented and minor errors and inefficiencies are exposed. While the constraint equations are very important for the operation of the present market, they will play a much more significant role in determining financial settlements under the OFA model than they do at present. They will be essential for market settlement, and also for a range of modelling exercises (such as access pricing and access allocation under the proposed transitional arrangements). Therefore, it would be expected that the constraint equations would come under significantly increased scrutiny. It is not clear that the present constraint formulations are sufficiently robust to withstand this increased level of scrutiny. It is also not clear that what AEMO's liabilities (as the administrator of the constraint equations) would be in the event of errors in the equations leading to incorrect access compensation over a period of time. Furthermore, very few organisations have the ability to formulate and critique constraint equations at present, so there is likely to be a deficit of technical ability to address disputes in this area.

3.1.9 Firm Access Standard (FAS)

The precise level at which the FAS is set is critical for the OFA model to work. If the FAS is too onerous for TNSPs, then the cost of firm access will be prohibitively high, and very few generators will purchase it. By contrast, if the FAS is set at a level that is easy for TNSPs to achieve, then it will be inexpensive to purchase, but will provide very little benefit for generators above their current level of access. This process will not be self-regulating or self-correcting in any way, so it will be essential to strike this critical balance during the initial negotiation of the FAS.

[21] AEMC, Technical Report: Optional Firm Access, p. 47.

It is stated in the Technical Report[22] that FAS scaling factors for each operating condition tier will be determined during OFA implementation, assumedly determining scaling factors for each operating condition tier that are broadly representative of the aggregate reduced physical network capacity under a range of defined triggers for entering a NOC2, NOC3 etc state. The spectrum of conditions that would trigger each NOC and AOC tier will need to be determined for each and every transmission constraint in the NEM. This will not be an easy feat, as discussed previously TNSPs will have strong incentives to minimise their financial risk by defining NOC tiers very conservatively (with reduced access NOC tiers applying for a relatively high proportion of the time). It is stated that AEMO and generators will have a role in this process, but it is clear that TNSPs will have far more information and resources at their disposal, limiting the ability of other stakeholders in the process to challenge their point of view.

The FAS scaling factors will also need to be determined, and the TNSP will have similar incentives to make these scaling factors as low as possible. It is proposed that the same FAS scaling factors will apply to every flowgate (at least across a region)[23]. However, it is not clear that the same FAS scaling factors will be appropriate at each flowgate (for example, a loss of one network element will have different level of effect on individual flowgates; application of varying NOC levels at each flowgate allows only a very coarse grained approach to address this difference). This raises the question of how it will be ensured that sufficient physical network capacity can be provided at each flowgate during reduced operating condition tiers when they are declared for that flowgate. Over the long term TNSPs will need to build network to meet these levels. In the short term, the question of who will pay if the present network does not meet the prescribed scaling factor at every flow gate (based upon the level of access allocated during the NOC1 modelling process) must be addressed by the Commission. The only apparent solution is to make the reduced operating condition tier FAS scaling factors highly conservative, which undermines the value of firm access and the OFA model in general.

Furthermore, since the RHS of many constraint equations are dependent on dynamic variables that are beyond the control of TNSPs such as inertia, temperature, wind speed, and so on, it is expected that TNSPs will assume worst case scenarios when determining the level of access available, or seek to have these variables included in the conditions for reduced NOC tiers. This further undermines the value of firm access.

Since the proposed regime is many times more complicated than the current regime, and is applied in respect to every single transmission constraint in the NEM, the design and implementation process is likely to be extremely expensive and time-consuming. It is assumed that the AER will ultimately need to be involved in these key decisions, which in turn, places a significant administrative burden on the AER. These costs could potentially be very high and have not been considered by the Commission. They must be quantified before the OFA model proceeds any further.

[22] AEMC, Technical Report: Optional Firm Access, p. 31.
[23] Technical Report, p.35

3.1.10 Grouping

The Technical Report claims that semi-scheduled generators could benefit from grouping to share firm access at the same flowgate[24]. However, this benefit is likely to be minimal and only applicable in certain rare cases. In the majority of situations, semi-scheduled generators (such as wind and solar) who are subject to the same constraints will be located in close proximity. This therefore implies that they will be subject to the same weather patterns, and will therefore have highly correlated output. The exception would be where different semi-scheduled generator types co-locate (such as a wind generator and a solar generator in close proximity). This may occur in a small number of cases, but given the distribution of renewable resources in the NEM is not expected to be the general case.

3.1.11 Impacts on consumers

The majority of TNSP expenditure is driven by growing peak demand, replacement and maintenance of their network to maintain reliability standards. Access pricing under the LRIC methodology compares augmentation costs to a baseline that would be required to maintain demand-side reliability, with the generator only paying the difference above this baseline for the provision of firm access. This suggests that the OFA model will not reduce network costs to consumers, and simply provides TNSPs with a secondary revenue stream by offering firm access, suggesting that any benefits to consumers would be minimal.

Furthermore, the risks and costs for consumers could be substantially increased. Where TNSPs are exposed to penalty costs this could be passed through to consumers. Furthermore, it is recognised by the Commission that pricing mismatches will be borne by demand side users[25]. These mismatches, caused by modelling errors or simplifications in the pricing methodology, could be substantial. It is not clear that the risks are unbiased so that positive and negative impacts on TUoS charges average out over time as claimed. The increased risk profile for consumers must be very carefully considered before proceeding.

3.1.12 Inter-regional transmission

The proposed arrangements for Firm Interconnector Rights (FIRs) add further complexities to the OFA model. In particular, there is ambiguity over how FIR's would interact with intra-regional firm access rights. Far more consideration is required to understand the incentives for generators when locating in areas affected by hybrid flowgates.

Furthermore, there is no guarantee that the proposed bidding process for FIRs would lead to efficient augmentation outcomes. It is likely that an assessment of net market benefits would still be required to assess the impact of the augmentation upon consumers. It is possible that the augmentation would provide additional market benefits which would not accrue to generators, meaning that less augmentation occurs than would be efficient.

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[24] AEMC, Technical Report: Optional Firm Access, p. 28.
[25] Ibid, p. 59.

3.1.13 Trading of firm access rights

The Technical Report indicates that trading of firm access between market participants would be permissible, provided that no net reduction in access charges occurs. In order to ensure this occurs, every trade would be subject to TNSP approval (requiring a substantial modelling exercise). It should be noted that in this situation TNSPs face an incentive to disallow the trade request, since the generator seeking to purchase the firm access would then need to approach the TNSP, thus increasing the TNSP's asset base and allowable revenues. Therefore, this process will also need to be regulated to ensure that TNSP decisions are on a sound basis, placing additional regulatory burden on the AER.

3.1.14 Security and reliability issues

There is a potential incentive for any firm plant to overstate availability in order to benefit from penalties received from non-firm generation across a constrained flowgate. This could give rise to security and reliability issues, where peaking plant that is thought to be available fails to generate when required.

3.1.15 Unintended consequences

In any complex market reform, there is potential for unintended consequences. Given the high degree of complexity of the proposed OFA model, the CEC believes the potential for unforseen and unintended consequences is very high.

3.1.16 Conclusions

The complexity of the proposed OFA model is acknowledged throughout the Commission's documentation, and further complexity will almost certainly be revealed throughout the implementation process. Complexity increases the cost of implementation, creates a high risk of unintended and unforeseen consequences, and could inhibit the entry of new market participants. The above (non-exhaustive) list identifies a number of areas where there is likely to be significant additional complexity, beyond that acknowledged by the Commission in the Second Interim and Technical Reports.

The high degree of complexity combined with the low materiality of the problems that the OFA model intendeds to address, and the likelihood that the OFA model will not fully address these problems, suggest that the cost of the OFA model will outweigh any possible benefits. The extent that the Commission has considered the expressed 'benefits' of OFA against the objectives of the NEO, for the long term interests of consumers, is extremely opaque. For these reasons, the CEC does not support implementation of the OFA model.

4 Transitional provisions create a significant barrier to entry

As stated earlier, the CEC does not support the introduction of the OFA model. Given the significant concerns outlined in the previous sections it appears unlikely that the model will make any significant advancement of the NEO and the Commission has not demonstrated that it would. This section provides further critique of the transitional arrangements, which are of particular concern to CEC members. If the OFA model were to proceed regardless of the concerns expressed here, adjustments to the transitional provisions would be essential. This section outlines some essential proposed adjustments to that effect.

4.1 Proposed transitional arrangements

The Commission's Technical Report indicates that the intention is to allocate the entire firm capacity of the existing network to incumbent generators at the onset of the OFA model. This is then to be sculpted back over an unspecified period of time to some lower level, which existing generators would then retain for their entire residual economic life. In discussions, the Commission have indicated that sculpted access would be reduced to around 70%, which is consistent with the scale suggested in Figure 9.2 in the Technical Report. These arrangements are of significant concern to CEC members.

4.2 Stated purpose of transitional arrangements

The stated purpose of these transitional arrangements is:

- **To mitigate any sudden changes to prices** or margins for market participants (generators and retailers) on commencement of the OFA regime;
- **To encourage and permit generators – existing and new – to acquire** and hold the levels of firm access that they would choose to pay for;
- **To give time for generators and TNSPs to develop their internal capabilities** to operate new or changed processes in the OFA regime without incurring undue operational or financial risks during the learning period; and
- **To prevent abrupt changes in aggregate levels of agreed access** that could create dysfunctional behaviour or outcomes in access procurement or pricing.

The CEC does not believe that the proposed arrangements meet any of these stated aims.

The application of the OFA model in a market where *no one* has firm access is essentially identical in operation to the present NEM. Therefore, starting from the present market (with no firm access allocated) and allowing only those who wish to procure access to purchase it (at a fair and competitively determined market price) provides the most gradual and non-disruptive transition from the present arrangements.

Similarly, minimising the number of market participants who hold firm access rights (by requiring them to purchase it at a price representative of its value) allows market participants to more gradually develop internal capabilities to deal with the new settlement process. By contrast, allocating the full amount of available firm access to all market participants means that everyone must suddenly deal with the new settlement process whenever congestion occurs.

The CEC also does not believe that the proposed transitional arrangements will encourage generators to acquire and hold the level of firm access that they would choose to pay for. The majority of generators would not choose to make additional payments for an increased level of access, beyond that which they currently enjoy.

Despite this the Technical Report recognises two possible equilibria subsequent to OFA being implemented[26]:

- All generators are firm and new generators choose to be firm
- All generators are non-firm and new generators choose to be non-firm

The starting point would very likely determine which equilibrium ultimately eventuates. If all firm access is allocated initially, all generators will be forced to purchase firm access to maintain their access to the market (even if they would have preferred to operate in the present market without firm access). By contrast, if no firm access were allocated, and only those generators who wanted it were able to purchase it at a fair and competitive market price, the market has the opportunity to reach the alternative equilibrium where very few participants obtain firm access. The CEC expects that the latter outcome would be closer to the "*level of firm access that they would choose to pay for*" which underpins the concept of 'optionality' applied by the Commission[27].

4.3 Gifting of the existing shared network

It is essential to bear in mind that the proposed transitional arrangements would constitute a gifting of substantial value to incumbent generators, which is denied to all new entrant generators. This would effectively constitute sanctioned discrimination between market participants, creating a significant competitive disadvantage for new entrants. New entrants would need to make substantial access payments, or pay compensation payments to incumbents whenever constraints bind. Neither of these costs would be applied to incumbents.

The Technical Report states that "*The transition process will help to ensure that, from day one of the OFA regime, existing generators will hold agreed access amounts that provide them with firmness of access to the RRN similar to the de facto access they currently enjoy*"[28]. This would only be true if the market were expected to remain completely static over time. In reality,

[26] Ibid, p. 83.
[27] Ibid, p. 15.
[28] Ibid, p. 67.

significant quantities of new generation are anticipated to enter the market over the coming decades. These new generators would have access to the shared network equivalent to the incumbents, and would correspondingly decrease the level of access for incumbents (in the absence of network augmentation). This is a risk in the present market under which all incumbents knowingly invested[29].

If the Commission *actually* wants to maintain the current level of access that generators currently enjoy, firm access should not be allocated at all, instead generators should be allowed to purchase it (at a fair and competitive market price) if they so desire. Given that the OFA model with no one holding firm access rights operates very similarly to the present NEM, this would provide the best representation of incumbent generators receiving *exactly* the level of firm access that they currently enjoy. The gifting of any firm access to any incumbent represents an increase in their level of firm access by locking out new entrants. They have been given the right to collect compensation payments from any new entrants (connecting at points affected by congestion), which they did not have before. This represents the gifting of substantial value to incumbents, and withheld from new entrants. Again, this is sanctioned discrimination which represents a competitive disadvantage for new entrants.

The CEC notes the discussion in the Technical Report on this matter, denying that the proposed transitional arrangements constitute a barrier to new entrants or a competitive disadvantage[30]. The arguments contained therein are, quite frankly, nonsensical. Of course inequalities always exist in competitive markets, and lower cost generators will be more profitable than higher cost generators. However, introducing new market arrangements that necessitate the payment of compensation by new entrants to incumbents (when those incumbents have not purchased this right in the same way that a new entrant would need to) introduces a massive market distortion. This is a competitive disadvantage sanctioned within the market framework, and is not founded on underlying costs or representative of any real externalities.

The argument that there "*will be plenty of other locations where new generators can and will locate*" is also nonsensical. The stated goal is explicitly to "*maximise transitional access*"[31], allocating as much of the existing shared network as possible to incumbents. This implies that the intention is to deliberately minimise the amount of firm capacity available for new entrants. New entrants are likely to see firm access charges representative of the cost to augment the network (via the LRIC methodology) which is plainly different from the cost of firm access paid by incumbents (proposed to be zero!).

Furthermore, stating that "as transitional access is sculpted back, existing generators will increasingly bear the cost of access charges and spare capacity on the existing transmission network is likely to become available" only makes sense if transitional access is allocated for a short period of time (2-5 years) and sculpted back rapidly to zero or very low levels. This is not what has been proposed, with transitional access be retained by incumbent generators at a

[29] It also creates a locational signal to install generation in locations that will not tend to be vulnerable to congestion over the long term.
[30] AEMC, Technical Report: Optional Firm Access, p. 67.
[31] Ibid, p. 65.

level approximately equal to 70% of their present access, for their entire residual life. Even under projected carbon prices, the majority of incumbents are expected to remain viable until 2040 and beyond[32]. Therefore this sanctioned market distortion will remain for the foreseeable future.

The proposed arrangement of allocating the entire existing shared network capacity to incumbents would only be a sensible approach if it were for a very short period of time (2-5 years), reducing over that time to zero, with incumbents then needing to purchase firm access rights if they so desire it. The intention to allocate firm access rights for the *entire residual life* of the existing assets presents a clear barrier to new entrants.

The CEC proposes that if any firm access is to be allocated to incumbents for free during the transitional period, it must also be freely allocated to any new entrants that enter the market during the transitional period. The sculpted reduction of transitional access over time would need to be sufficient to ensure the same level of access can be provided to all new entrants during that period. This would allow all market participants to be on an equal footing in terms of costs applied by the market (and value gifted by the market).

4.4 Rent seeking behaviour

Another significant issue with the proposed transitional arrangements is that they are likely to encourage rent seeking behaviour. Although it is proposed to be gifted for free, firm access has significant value, so all incumbents will act to increase their allocation as far as possible.

The allocation process will be complex, highly challenging, and involve very high stakes. For example, in the Technical Report it is proposed to firstly allocate market participants to one of six categories (baseload, mid-merit, peaking, intermittent, MNSP and Interconnector[33]), each of which will get a different initial access requirement in peak and off-peak times varying from zero to the generator's capacity. There will be significant incentives for generators to be classified as baseload rather than mid-merit (to maximise their access requirement), and the behaviour of many units will not clearly place them in one category or the other (for example, many large coal-fired units would typically be considered baseload plant, but usually do cycle down to minimum load or some level below maximum capacity during off-peak times). Thus, even this seemingly simple step of the process is anticipated to be the source of heated debate and is very much exposed to dispute.

The access scaling process is likely to be even more challenging to define in a robust fashion. It is proposed that a complex modelling process be applied. This will be vulnerable to changes in any one of thousands of input assumptions, each of which cannot be accurately determined. Most particularly, the constraint equations utilised during this process will be under immense scrutiny, since the outcomes of the modelling determine the allocation of a limited and valuable resource between market participants. It is not clear whether the present formulation of the constraint equations is sufficiently robust to withstand this increased level

[32] Treasury, Strong Growth Low Pollution Future, 2011.
[33] AEMC, Technical Report: Optional Firm Access, p. 65.

of scrutiny; there are thousands of constraint equations, and the process for their formulation is highly complex. There may be cases where it could be argued that alternative constraint equation formulations could have equally been applied to produce similar outcomes in the present NEM, but which produce very different allocation outcomes. Difficult decisions will need to be managed in these circumstances, and these conflicts could be numerous.

The largest organisations are likely to be able to most effectively engage in this rent seeking behaviour, and are therefore likely to benefit the most. Smaller organisations are likely to have far less resources and are therefore likely to be disadvantaged in this process. In particular, scrutiny of constraint equations will be far easier for large organisations that have well-resourced trading desks, with staff already familiar with the constraint equations affecting their assets. Smaller market participants who do not have full time trading desks will be significantly disadvantaged. The CEC believes this could become and anti-competitive ‘up-scale’ barrier for smaller less resourced operators.

4.5 Complexity of the allocation process

In addition to encouraging rent seeking behaviour, the allocation process may undermine the OFA model by diluting the value of firm access. It is assumed that the described modelling process for allocation will be based upon NOC1 (System Normal conditions). As discussed in section 3.1.9, FAS scaling factors will be determined via a separate process during OFA implementation, assumedly determining scaling factors for NOC2, NOC3 etc that are broadly representative of the aggregate reduced physical network capacity under a range of defined triggers for entering a NOC2, NOC3 etc state. However, it is not clear whether these same FAS scaling factors will apply to every flowgate, and if they do, how it will be ensured that sufficient physical network capacity can be provided at each flowgate during NOC2, NOC3 etc conditions (when they are declared for that flowgate). Over the long term TNSPs will need to build network to meet these levels, but in the short term, who will pay if the present network does not meet the NOC2, NOC3 etc conditions at every flow gate (based upon the level of access allocated during the NOC1 modelling process)? The only workable solution will be to make the NOC2, NOC3 etc FAS scaling factors highly conservative, which undermines the value of firm access and the OFA model in general.

4.6 Auction the existing shared network

If the OFA model were to be implemented (which is not supported by the CEC), a sensible alternative to gifting the existing shared network to incumbent generators, would be to auction it, with generators who wish to purchase firm access doing so in a competitive process. The entry of this process could be smoothed, if desired, by:

- Gradually increasing the level of firm access that is auctioned over time (limiting the risk to generators that their neighbour suddenly purchases a large quantity of firm capacity, suddenly and dramatically changing their market position)

- Capping the auction price at the LRIC value for each node (since this would suggest that generators are prepared to pay for network augmentation in order to acquire firm access).

Auction revenues should be returned to consumers in the form of reduced TUoS payments over time. The incumbent generators did not pay for the existing shared network – consumers did. Therefore, if the existing shared network is to be gifted to anyone, it should be gifted back to consumers consistently with the NEO.

Application of an auction process in this manner (instead of free allocation) removes many of the issues identified above:

- Sanctioned disadvantage for new entrants is removed, because incumbents must also pay a competitive price for the network access they receive
- Rent seeking behaviour is removed, because there is no need to determine an initial allocation
- If the auction is conducted in a gradually increasing fashion, the stated intentions of the transitional arrangements (as outlined in section 4.2) should be better achieved.

However, even with the implementation of an auction process in this manner, the CEC would not support the introduction of the OFA model given that the costs of implementation are likely to far outweigh the benefits of this substantial market reform.

5 Conclusions

As stated earlier, the CEC does not support the implementation of the OFA model. The OFA model aims to address issues around increasing the depth and liquidity of the contracts market, reducing inefficient dispatch due to disorderly bidding and increasing the cost-reflectiveness of locational signals for generators. However, none of these issues is considered to be of significant materiality, suggesting that even if the OFA model solved these issues completely it would be of limited benefit.

Upon consideration, the CEC does not believe that the OFA model will address these issues cost effectively, and may lead to unintended consequences. The nature of access provided is not fixed in nature, so generators will still face congestion risks in their contracting decisions. Incentives for disorderly bidding will be removed in some circumstances, but will be introduced in others. It is also questionable whether locational signals to generators will be improved; given the central role of the TNSP in determining access pricing, their expectations about future generation development will drive access pricing in a far more centralised fashion than in the present market, where stakeholder engagement is possible via the RIT-T. Contrary to the Commission's suggestions this does not constitute 'market-led' development, and the CEC expects that it is a retrograde step.

Furthermore, the costs of the OFA model (in implementation and operation) are likely to be very high. Most Power Purchase Agreements will need to be re-negotiated, there will be a significant increase in the complexity and scope of the regulatory burden on the AER, queuing for network access will considerably complicate the process of bringing a new generator to the market, the determination of the Firm Access Standard will be highly challenging, and so on. It is essential that the Commission attempts to quantify these costs, in addition to quantifying the potential benefits of the OFA model (if any), so that they can be properly compared.

Finally, the CEC has serious concerns about the proposed transitional arrangements. The gifting of the existing shared network to incumbent generators represents a massive wealth transfer, with new entrants being locked out of the market. The application of access costs on one set of generators (the new entrants) while incumbents enjoy free access for their residual economic lives represents a serious competitive disadvantage that is sanctioned within the market framework. Instead the CEC proposes that the existing shared network capacity is gradually auctioned, such that generators who desire firm access purchase it (at a competitive market price), and others can remain non-firm (as they are at present). This would also minimise market disruption, since it would allow a gradual transition from the present market (where no one has firm access) to a future market where those who desire firm access purchase it. It would also minimise problematic rent seeking behaviour. Proceeds from the auction could be returned to customers, who originally paid for the existing shared network and in accordance with the NEO.

Again, the CEC thanks the Commission for the opportunity to respond to the OFA proposal, and look forward to ongoing discussions on this matter.