

Friday 5<sup>th</sup> September 2014

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

Dear Mr Pierce,

## **RE: ERP0039 Optional Firm Access Design and Testing Review**

As you are aware the Clean Energy Council (CEC) represents Australia's renewable energy industry, including stakeholders with both existing and proposed large-scale renewable generation assets. Collectively, the CEC has more than 500 member organisations with roots in the renewables sector.

Federal legislation is in place with the clear intent to transform our energy supply from a centralised, high emission model to a decentralised low emission model in the coming decades. This transition has already started. The legislated Renewable Energy Target has created the conditions for the renewable energy industry to invest \$14 billion dollars in new large-scale renewable energy projects in the National Electricity Market by 2022.

The CEC's members have grave concerns about the proposed outcomes of this review. There are numerous aspects of the proposed Optional Firm Access (OFA) reforms which create significant new risk for future investments in the market. To date the analysis of OFA has not demonstrated that these risks provide any net benefit to consumers. No evidence of an advance of market objectives by OFA has been provided.

On the contrary, the Renewable Energy Target is a *legislated* reform put in place to transform the energy supply was done so for the long term interests of consumers – the benefits of which have already been demonstrated through the recent review of the legislation's performance.

It is the CEC's view that risks, uncertainties and costs presented by the proposed OFA reforms are sufficient to prevent much of the proposed future large scale renewable energy investment, and subsequent benefit, from being advanced. The attached submission sets out these risks in detail and requests that the Commission respond to each of them in sufficient detail to convince the industry that the above concerns are unwarranted.

The CEC's members do not support OFA proceeding any further.

The objectives of this reform are inconsistent with, and are likely to impede, consumer expectations for the future direction of the electricity market. The long term interests of consumers are unlikely to be advanced from this outcome.

Please do not hesitate to make contact on the details below to discuss this submission. The CEC's members are also available to meet and discuss these matters as necessary.

Sincerely,

A handwritten signature in blue ink, appearing to read 'J. Butler', with a long horizontal flourish extending to the right.

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## 1 Executive summary

The Clean Energy Council (CEC) recognises that the Australian Energy Market Commission (Commission) is undertaking the Optional Firm Access Review on the basis of its terms of reference. However, Optional Firm Access (OFA) would represent the most significant reform in the National Electricity Market since market start. The CEC and our members do not support the implementation or continued development of OFA. It will have wide reaching ramifications that extend beyond the NEM.

There is a clear absence of any quantitative basis for the proposed reforms. The modelling undertaken to date has not identified that the scope and breadth of the proposed reforms are needed to resolve any material inefficiency. Other than subjective commentary the Commission has not demonstrated that the implementation of OFA would provide any benefit to consumers, the investment frameworks for generators or investment and planning in transmission network assets.

On the contrary, the introduction of an OFA model would be likely to impede future generation investments as it introduces significant new risks. This includes impeding the objectives of external legislated instruments including the Renewable Energy Target.

OFA is likely to compromise the viability of many otherwise feasible large scale renewable energy generation projects. The lack of consideration of how these objectives could be met coherently is a clear demonstration of the perverse outcomes which result when energy market reform considered in absence of climate change policies. As consumers are unlikely to see any benefits of this misalignment the National Electricity Objective is unable to serve their long term interests.

Although the Commission is proposing an assessment framework for OFA the Commission has also repeatedly stated that many of its components cannot be assessed quantitatively. Therefore, the context that the Commission would be making its recommendations from is deeply flawed. It includes:

- Numerous subjective qualitative assessments based on shallow consideration of outcomes;
- Changing objectives of the OFA model which appear to be addressing problems that have not been identified as being material, or even requiring reform;
- Views of the OFA model which are clearly conflicted by the terms of reference for this review, compromising the independence of the Commission;
- A disconnect from reality that is clearly evidenced by vocal disagreement from generators that the benefits the Commission suggest will flow to generators are benefits at all, and;

- A proposed transitional arrangement which sanctions a barrier to entry, while subsidising firm access for incumbent generators for the majority of their economic life.

The Commission's clear motive to proceed on a 'leap of faith' basis is extremely concerning. The OFA model presents numerous significant risks and costs for consumers that have either not been considered, or have been brushed aside.

Repeating, the CEC and our members do not support the implementation or continued development of OFA. The CEC does not believe that any perceived benefits flowing from OFA will overcome the numerous and, when compounded, immense risks that the proposed reforms impose on consumers.

The remainder of this submission outlines the reasoning for this position in detail, along with a range of matters that the Commission must take into account when assessing OFA if the review is to proceed. Failing to address these matters will fail to fully appreciate the costs and impacts of implementing OFA.

## 2 Quantifying the cost of the solution

The allocation of risks in the reform process is a matter that was clearly noted by the Commission Chairman John Pierce in a 2103 speech:

*“I would suggest that any discussion of how to improve the NEM or how the NEM is affected by policy or regulatory changes needs to explicitly address this question of how risks are allocated... and we need to be comfortable with the answers.”<sup>1</sup>*

Yet the Commission has not demonstrated sufficient evidence that a problem of a scale commensurate to the OFA reforms exists. Indeed the *problem* appears to change as OFA is developed. It was initially intended to resolve *disorderly bidding* and is now proposing to increase financial certainty for generation amongst a range of other subjective benefits.

### ***The Commission’s assessment and modelling undertaken to date***

The Commission’s terms of reference clearly set out the objectives for this review. Primarily, to recommend if an OFA model that reflects better outcomes for consumers should proceed.

However, the Commission appears to be working towards these with a view that OFA can be assessed in a mostly qualitative manner and implementation may have to be on a “leap of faith” basis. Given that the problem was not clearly identified from the onset it appears that the review is now looking for new objectives for the OFA model.

The Commission’s resolve to work towards the implementation of *an* OFA model is best demonstrated by the review proceeding in the absence of quantitative evidence of the problem. This approach creates the perspective that the objectives of the review have already determined an outcome.

As noted by the Commission the potential savings calculated from the introduction of OFA are anticipated to be marginal<sup>2</sup> relative to NEM revenues. Similar modelling outcomes have been produced by Frontier Economics<sup>3</sup>. The remainder of the Commission’s assessment is qualitative, which again has not demonstrated that substantial benefits will accrue from OFA.

The Commission should now focus on demonstrating that OFA can and will provide a net benefit to consumers with rigorous and comprehensive economic and market analysis.

Failing to do so exposes consumers to significant risk and reduces industry confidence in the review and the Commission’s independence. The CEC suggests expediting this work to alleviate these concerns.

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<sup>1</sup> John Pierce, 2013, *The Hitch Hiker’s Guide to the NEM*.

<sup>2</sup> AEMC, 2014, *Optional Firm Access Review, First Interim Report*, p. 29.

<sup>3</sup> Frontier Economics, 2013, *Economic Costs of Disorderly Bidding*.

## ***Stakeholder responses***

Many stakeholders (especially generators) have reacted adversely to the Commission's proposals for the OFA design. This appears to have exposed a potential disconnect from reality where the Commission's expected benefits for some stakeholders are expected to be immaterial or negative by those same stakeholders.

In assessing OFA the Commission must reconcile the divergence between the stated benefits for generators, and the disagreement from generators that these benefits will be positive, or even existent.

## ***Implementation costs***

At the highest level, the lack of a benchmark case from which experience in implementing OFA can be drawn indicates a high risk to the outcomes if implementing it.

There are multiple examples of cost blowouts for such an approach, with one of the more recent being Melbourne's public transport ticketing system, which cost taxpayers some 150% of the budgeted implementation costs (an additional \$500 million). Another example is the introduction of nodal pricing and associated reforms in the ERCOT market which was budgeted at \$125 million and closed at a cost of \$550 million, some 440%<sup>4</sup>.

These examples are not intended to be directly transferrable to OFA, however they demonstrate that invariably implementation costs are much higher than anticipated, especially in the electricity sector and where reforms are bespoke.

In addressing any proposed implementation of OFA a margin must be considered on the estimated costs. The Commission should undertake extensive research to establish realistic magnitudes for such a margin and incorporate this into any cost benefit analyses. Failing to do so will overstate the long term benefits of OFA to consumers, and could grossly understate the risks they face.

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<sup>4</sup> Zarnikau et. al., *Did the introduction of a nodal market structure impact wholesale electricity prices in the Texas (ERCOT) market?*, [www.frontierassoc.com](http://www.frontierassoc.com), p. 4.

### 3 The Commission's impact assessment framework

The Commission has set out its proposed assessment established a set of framework for the OFA model<sup>5</sup>. This section considers aspects of this framework and other related areas and provides recommendations on the aspects which the Commission needs to account for when assessing these matters.

More specifically the following assessment areas and recommended foci are discussed in more detail in the remainder of this submission.

#### *The interaction of OFA with other legislative instruments*

Given that OFA is being designed in the face of uncertainty it is reasonable to expect that the Commission assesses the outcomes under likely futures, including identification of the impact of OFA:

- on the costs of achieving legislated Renewable Energy Target, and;
- with regards to encouraging high emission generation to remain in the market for longer than desired by emissions reduction policies.

#### *Financial certainty for generation*

Consideration should be given to:

- New risks that OFA creates in the project development process, including the connection process;
- Overcoming challenges to financiers being able to value firm access and the time delay between committing to financing and the provision of firm access;
- Exposing TNSP to the full shortfall charge;
- The risks created by uncertainties in the provision of firm access by a third party which the generator and the financier have not control over;
- Risks created by delays when another party seeks firm access through the same flowgate;
- The risk of over-procurement of firm access due to the uncertainty associated with the TNSP providing it;
- The costs associated with the OFA reforms making proposed projects unviable.
- The costs of generators having to renegotiate their power purchase agreements, and;
- The costs of generators having to renegotiate their financing arrangements.

#### *Efficient investment in new generation capacity, including locational signals on where to build plants*

Consideration should be given to:

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<sup>5</sup> AEMC, 2014, *Optional Firm Access Review, First Interim Report*, p-p. 19-20.

- The relative benefits that OFA might provide when compared to the application of the current RIT-T;
- The challenges in forecasting the likely actions of the TNSP and the impact on investment should TNSPs fail to see sufficient incentives to provide firm access, and;
- The relative impact of these new challenges and risks which have to be considered in financing decisions.

#### *Efficient dispatch of generation*

Consideration should be given to the likelihood that OFA will create new incentives for 'disorderly bidding'.

#### *TNSP incentives and efficient investment in new network capacity*

Consideration should be given to the likely increased costs for consumers arising from:

- Over-building of transmission augmentations;
- Significant increases in complexity;
- Exposure to shortfall costs for transmission augmentations which exceed access request expectations;
- Inaccurate identification of costs with LRIC from numerous and diverse assumptions, inaccurate demand forecasting, 'locking-in' assumptions, repetitive LRIC assessments for the same flowgate, assumed perfect information feeding into the RIT-T;
- Increased use of dispute resolution from capital cost error margins, arbitrary selection of baseline LRIC costs, and dispute over constraint equation settings;
- Significant increases in regulatory burden resulting from increased expertise required in the AER, regulation of the application of the LRIC pricing model and increased incentives and opportunities for TNSPs to manipulate outcomes, and;
- Creating impediments to efficient regulation as it is currently applied.

#### *Implementation and transitional arrangements*

Consideration should be given to:

- The identification of a reasonable multiplying factor to be used when deriving an implementation cost for OFA;
- Identifying the magnitude of the wealth transfer from customers to generators at the commencement of OFA, and the impact of the duration of the transitional arrangements on this;
- Identification of the competition impacts that will result from the creation of a rules-based subsidy for incumbent generation accompanied by the creation of a barrier to entry for new entrants;
- The impact of rent-seeking behaviour by larger market participants, and;
- Alternative transitional arrangements to grandfathering, in particular utilising an auctioning process to derive an appropriate value for firm access and to demonstrate



that the Commission's suggested benefits of OFA can be revealed when generators are required to pay for it.

#### *The level of transaction costs*

Consideration should be given to the transaction costs associated with all of the above items.

### **3.1 Financial certainty for generation**

The Commission asserts that the OFA model should increase financial certainty for generation and therefore decrease the risk-adjusted cost of capital and subsequent cost to consumers. The Commission premises this on a perceived increase in certainty for generators, in terms of hedging against future price volatility and reducing dispatch risk.

The following discussions identify a range of issues which require further consideration on how they impact on both existing and new-entrant generation if OFA was to be implemented.

#### ***Implications of OFA for capital costs***

While the Commission believes that the costs of capital will decline with OFA, the capital costs are certain to increase (discussed later). There are two key aspects to this:

- The increased capital expenditure of the combined FAS across the NEM; and
- The higher cost of capital that a generator faces compared to a TNSP.

Implicitly underpinning OFA is the assumption that increased capital costs will be borne by generators because competitive pressures in the wholesale market will prevent consumers from being exposed to them. This assumption only stands under the Commission's proposed transition arrangements where existing generators are grandfathered access at no cost.

In addition any investment made by a generator will face a higher cost of capital than a TNSP is exposed to, leading to increased costs overall for the same transmission outcomes.

Ultimately, any costs which generators are exposed to will be passed through to consumers. In a situation where generators are exposed to additional capital costs, these costs will be recovered by higher wholesale prices.

In order for OFA to have merit the Commission must demonstrate that a possible any risk-adjustment 'benefit' to the costs of capital must be demonstrated to surpass the additional wholesale price increases to meet the combine FAS costs.

## ***Impact of OFA on existing power purchase agreements***

Most large scale renewable generators in the NEM operate under long term 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<sup>6</sup>.

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. This has been recognised by the Commission as being an uneconomic strategy for semi-scheduled generators<sup>7</sup>.

OFA would also give a firm generator which shares a constraint with a 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. Such behaviour generally reduces supply and increasing market prices.

Although PPA's are formulated in slightly different ways it is expected that the introduction of OFA will constitute a 'review' or force majeure event for many of these contracts. The CEC expects that many PPA contracts will require re-negotiation under implementation of OFA (regardless of whether those generators intend to hold firm access or not). In some cases this renegotiation may cause a large wealth transfer between PPA counter parties.

Similar effects are likely to be experienced by market participants on other types of contracts.

This outcome alone places a substantial administrative cost burden and additional risk on all generators with long term PPAs. Such burden must be quantified by the Commission to allow an appropriate cost-benefit analysis to be conducted.

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<sup>6</sup> The CEC considers that this is likely to present a barrier to new entrants registering as market participants. It is likely to promote a larger number of non-scheduled generators.

<sup>7</sup> AEMC, 2012, *Technical Report: Optional Firm Access*, p. 84.

### ***Impact of OFA on existing financing arrangements***

Many generation projects are likely to be exposed to dramatic economic changes upon the introduction of OFA. Similarly to PPA contracts, existing financing contracts are likely to require renegotiating to accommodate these changed circumstances.

Financiers operate at the periphery of the electricity market so, given its complexity, are likely to be incredibly risk averse about the benefits and risks that OFA would present for the projects they fund. Significant risk premiums are likely to result, leading to higher costs for generators and ultimately consumers.

### ***Impacts of OFA on the contracts market***

AS access is only firm generators have no guarantee of access to market, and must still take into account the possibilities that the TNSP will not meet the FAS and the low compensation that would result. There remains a significant risk that the economic returns of funding firm access may be jeopardised by the actions of the TNSP. Generators must take into account the expected occurrence of the FAS not being met, and the subsequent economic impact of this service being under-provided.

In the present market, generators have a reasonable knowledge about the constraints that their assets are subject to and when they typically bind. They also have a reasonable understanding of the dispatch outcomes that are likely to occur when they do bind. By contrast, under the OFA model, generators with firm access may not receive sufficient certainty about their future access to market to reinforce contracting positions.

As the proposed reduced shortfall factor does not provide equivalent economic returns to firm access the OFA model can only provide limited certainty to 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 uncertainty is likely to lead to over-procurement of firm access, and subsequent over-investment which exposes consumers to increased wholesale prices.

The only mechanism to provide the contracting certainty that the Commission is expecting to come from OFA is to expose TNSPs to the full shortfall amount.

The Commission suggests that congestion tends to be volatile and unpredictable<sup>8</sup>, which then reduces the level at which a generator can confidently hedge. This is misleading as generators know their offered capacity, have a reasonable idea of which constraints they are involved in and the magnitude of their coefficient in these constraint equations (the factors which determine their dispatch if a constraint binds).

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<sup>8</sup> AEMC, *OFA Review, First Interim Report*, p. 22.

Therefore, the present system provides a reasonable degree of confidence over dispatch (upon which they will base their contracted amounts). Contrary to the Commission’s claims the CEC does not see that OFA is seeking to resolve a material issue with regards to congestion volatility and any consequential uncertainty.

***OFA increases uncertainty in the connection process***

Risks that generators face from their locational decisions are currently well understood by developers and financiers. The introduction of OFA will lead to new risks that become extremely difficult quantify and distort the appreciation of any benefits from OFA.

Table 1 shows a typical project development and operation timeline with regards to matters where OFA will interact. While the project’s development cycle is relatively unchanged under OFA, some parameters are somewhat different and *increased* certainty is not a clear outcome.

**Table 1: Renewable energy project development and operation cycle and interaction with OFA .**

Timing (years)	Project Development / Operation Step	OFA Solution	Certainty level
1-2	Site identification / resource analysis / connection options	-	Very low
2-3	Project yield, suppliers considered, connection enquiry	-	Low
3-5	Project electrical design, connection application, MLF and congestion impact studies	-	Medium
5-6	Connection agreement including <b>firm access request</b> , planning approvals, supplier contracts	-	Bankable & committed
6-8	Construction, connection, commissioning, <b>RIT-T process commences</b>	RIT-T process commencement unclear	Generating
0-5	Generating, <b>short-term firm access, RIT-T complete and access capacity construction</b> <sup>9</sup>	Short-term firm access auctioned, non-firm revenue from TNSP if shortfall	MLF risk, unknown cost of access, uncertain revenues as TNSP not exposed
5+	Generating, <b>long-term firm access</b>	FAS built out, non-firm revenue from TNSP if shortfall	MLF risk, uncertain revenues as TNSP not exposed
15-18	Capital repayments complete		
20	Generating, <b>long-term firm access</b>		

<sup>9</sup> AEMC, 2014, Optional Firm Access Review, First Interim Report, p. 87.

Table 1 shows that while OFA is intended to increase certainty it also introduces a number of new uncertainties, including:

- The extended timeframe to negotiate an access request with the TNSP.
- The extended period for an RIT-T to take place.
- The capacity for a RIT-T to be delayed once or multiple times if the TNSP receives additional access requests.
- The risks created by a dependency on a third party (TNSP) to provide the service.
- The risk that imperfect information used in the LRIC model could lead to misguided investment decisions by the generator.
- The shortfall penalty potentially being more attractive to the TNSP than investing in the network to meet the FAS requirement.

The CEC notes that it will only take a single incidence of a TNSP behaving in a way that encourages a negative outcome to negate any perceived certainty from the perspective of financiers. For example, should a TNSP delay the process, or should an additional access request delay the RIT-T process, financiers are likely to lose confidence that outcomes are certain.

Thus OFA would create an extremely difficult environment for financiers to appreciate any benefits of firm access. OFA is therefore unlikely to support more certain financing. Additionally, in order to value firm access, financiers would also have to fully understand the likely costs of the counterfactual, where the generator may be exposed to congestion. It is also unlikely that this analysis can be done with great certainty.

### **Summary**

The NEM already provides a platform for efficient investment in generation, no evidence of inefficient investment has been provided to make a case for change.

The increased uncertainty of obtaining firm access and the costs of doing so are likely to impede the model's suggested benefits. Increased capital costs faced by generators procuring firm access coupled with the higher costs of capital which they are exposed to will be passed through to consumers in the long run via increased wholesale prices.

Changed market arrangements resulting from the introduction of OFA are expected to trigger review events for current PPA and financing contracts, resulting in significant administrative burden, and very high risk for existing generators.

A suggested increased operational certainty and a more efficient contracts market are not clear outcomes from OFA at this point. It remains likely that these potential benefits will be over-ridden by the risk of unrecovered revenues as the TNSP is not exposed to the full cost should they fail to meet the FAS.

The implementation of OFA creates significant uncertainty in the project development timeline. In particular the time lag between committing to financing and the TNSP delivering the assets to provide firm access is too long to provide sufficient certainty to impact project financing.

OFA would create an extremely difficult environment for financiers to value any benefits from firm access. In addition, as it will be very difficult for financiers to fully understand the likely costs of the counterfactual it is unlikely to support more certain financing.

There are numerous new risks that OFA introduces which are likely to increase costs for generators and, jeopardise current contracting arrangements. As a result the CEC's view is that OFA is likely to increase wholesale prices, rather than reduce wholesale prices as suggested<sup>10</sup>.

The cumulative effect of these issues is also likely to have a detrimental impact on projects aiming for financial close in the near term. Given the large number of proposed semi-scheduled generators and their geographic location it is extremely likely that a very large number of them will not remain viable following the implementation of OFA.

### 3.2 Efficient dispatch of generation

The Commission has claimed that 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<sup>11,12</sup>. However, the OFA model could cause new incentives for non-cost reflective bidding and therefore lead to new inefficiencies.

Such an outcome has been recognised by the Commission's previous work which described that OFA could "*create a strategic 'tug-of-war' between firm and non-firm generators that would tend to drive dispatch 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*"<sup>13</sup>.

A clear example was provided to the Commission in the CEC's submission to the Transmission Frameworks Review's Second Interim Report<sup>14</sup>. That example clearly illustrated that the OFA model can cause scenarios where new types of 'disorderly' bidding could occur and negatively impact upon dispatch efficiency. Thus, while the OFA model may reduce disorderly bidding in some circumstances, it will clearly increase disorderly bidding in other circumstances.

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<sup>10</sup> AEMC, 2014, *OFA Review, First Interim Report*, p. 8.

<sup>11</sup> AEMC, 2012, *Technical Report: Optional Firm Access*, p. 12.

<sup>12</sup> AEMC, 2014, *OFA Review, First Interim Report*, p. 29.

<sup>13</sup> AEMC, 2012, *Transmission Frameworks Review, Second Interim Report*, p. 53.

<sup>14</sup> CEC, 2012, *Transmission Frameworks Review, Second Interim Report Submission*, p-p. 11-13.

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

The net benefit of the OFA model on 'disorderly bidding' and dispatch efficiency therefore remains very unclear.

### **3.3 Efficient investment in new generation capacity**

OFA is likely to have a significant impact on new generation investments. While the reforms would impact on locational signals for new generation projects, it is not clear that this impact will provide long term benefits to consumers.

The First Interim Report appears to have confused the fact that network related locational signals may have a lower prominence to other locational signals for a new project, with the Commission's view that OFA will have a low impact on new projects<sup>15</sup>.

By making this statement the Commission appears to be trying to justify a view that OFA will have a low impact on new projects. The Commission has not provided any evidence to support the position that changes to locational signals will benefit consumers. As demonstrated here the CEC suspects this is not the case.

The CEC believes that the current locational signals are reasonable and sufficient to inform investments. There are numerous siting factors for a new generation project, with access to transmission being one. By no way does that mean it is not important or does not already have significant implications for any project.

Locational signals are currently provided directly in the form of Marginal Loss Factors and the impacts of present and future congestion on dispatch (and therefore revenues). Generators and financiers are familiar with these signals and feed them into their investment decisions.

In addition, a less direct but important signal is provided by the expectations of network development under the RIT-T, due to the impact this would have on future congestion. With regards to semi-scheduled generation the low short-run marginal cost characteristic has the potential to provide consumers with a benefit through the RIT-T. This arrangement has already produced positive outcomes with the Heywood interconnector upgrade.

Despite this the OFA model proposes to remove this component of the test, and replace it with access pricing signals. The introduction of the proposed access pricing methodology creates new complexity and will be prone to the application of inaccurate assumptions which could lead to arbitrary and high cost results.

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<sup>15</sup> AEMC, 2014, *Optional Firm Access Review, First Interim Report*, p. 36.

For example, the challenges inherent in forecasting the likely actions of the TNSP in procuring the FAS could make it difficult for generators to accurately determine the value of firm access during the procurement process., making it difficult to assess whether a generator should procure firm access at all.

These new location signals are likely to result in less efficient decisions made by both generators and TNSPs. Such an outcome has the potential to undermine OFA's objective of more co-optimised generation and transmission investment.

### **3.4 TNSP incentives and efficient investment in new network capacity**

The Commission suggests that the creation of new incentive arrangements on TNSPs and generators will lead to better outcomes for consumers. Below the CEC identifies a number of risks associated with the introduction of OFA.

#### ***Operation of transmission networks***

OFA 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). TNSPs already adopt prudent practices in construction work and when planning scheduled outages.

Concurrently, generators and TNSPs are well versed in the implementation of runback schemes and other shallow augmentation works that can overcome the impact of constraints. It is not clear that additional incentives are required to overcome issues with the operation of transmission networks. Indeed, the Commission has not demonstrated that the current arrangements don't produce efficient outcomes.

There is therefore no evidence that OFA model would lead to further improvement in the operation of transmission networks. If commercial incentives are considered necessary, there are likely to be far simpler solutions than those proposed by OFA.

#### ***The creation of new 'free-rider' opportunities and unrecoverable costs***

The Commission's Transmission Frameworks Review Final Report states that there is currently a disincentive to generators investing in alleviating constraints because of an expectation that other generators will 'free-ride' on the investment<sup>16</sup>. While this may be the case with regards to investment in deep network augmentations previous investment in shallow augmentations has been very successful in alleviating constraints.

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<sup>16</sup> AEMC, 2012, *Transmission Frameworks Review, Final Report*, p. 4.



OFA encourages generators to trigger lumpy deep augmentation investments which are only partly utilised and partly paid for by the respective first mover generator. As this initial investment would alleviate the constraint there would be no need for a later movers, which do not trigger a new investment, to consider firm access through that flowgate.

Firm access would not need to be considered until the constraint started to 're-bind' with sufficient economic impact on a generator to wish to resolve it. As this may take some time, and may not ever eventuate, the TNSP is left with investing in the network to meet the initial access request, while only being certain that it can recover part of the cost to provide the firm access from the first mover.

It is worth noting that at every flowgate in the NEM where an investment occurs the TNSP would only be able to recover part of the cost. As noted by the Commission consumers are expected to pay for this shortfall<sup>17</sup>.

Being risk-averse by nature, it is extremely unlikely that a TNSP will not seek to recover these costs from another means if consumers are not expected to pay them. A TNSP which cannot obtain a clear path through which they can recover these costs will face increased risk-adjustment for their own financing and concurrently seek ways to recover them through other means (TUoS charges or manipulation of the regulatory determination settings, for example).

These outcomes could have a double negative impact on costs for consumers: increased risk means increased financing costs for TNSPs, and increased costs mean general increases in transmission costs to reduce the TNSP's exposure to them.

This outcome is extremely unlikely to be positive for consumers and the Commission will need to investigate this to ensure that such an outcome cannot occur.

### ***Access pricing***

While this stylised Long-Run Incremental Cost (LRIC) methodology appears hypothetically sensible, it is likely to be extremely difficult to apply efficiently in practice. Challenges with robustly estimating most of the model variables are likely to create inefficient outcomes.

The determination of baselines requires a very long term (30 year) projection of demand growth and other variables that affect network flows. Recent history has demonstrated the challenges inherent in demand forecasting. This uncertainty is further compounded by the changing nature of demand making forecasting even more complex and uncertain. Since firm access prices cannot be revised in light of new or changed information (once settled), erroneous assumptions are 'locked in' by the LRIC model.

Additionally, there is an inter-relationship between firm access requests and flowgates where the assumptions used for LRIC calculation for firm access at one location will affect the

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<sup>17</sup> AEMC, 2014, *OFA Discussion Paper: Pricing in the Optional Firm Access Model*, p. 5.

baseline for another LRIC calculation for firm access at a different location. The OFA model optimistically assumes that perfect information will overcome this challenge. Since perfect information is unachievable in the real world it will be challenging for LRIC to achieve fair and reasonable outcomes.

A further issue highlighted by this inter-relationship will be that a TNSP would be unlikely to process an access request while it is considering a separate request that may be in the same area. An informal queue will be the only feasible outcome for the TNSP to navigate requests.

TNSPs are likely to use conservative inputs to LRIC calculations leading to 'over-building', inflated prices for firm access and subsequently inefficient costs to consumers in the long term.

The numerous assumptions that LRIC will have to account for will increase administrative burden dramatically implying that efficient outcomes are unlikely. The use of the RIT-T creates new challenges with OFA. For example the selection of the baseline network expansion plan can lead to increased use of dispute resolution, if some stakeholders disagree with the assumptions used. Error margins of -10% to +30% are generally applied to future augmentation costs. Unless the LRIC can be clearly defined to lead to consistent planning outcomes and cost projections, this is potentially another area of ongoing dispute between TNSPs and generators seeking firm access.

LRIC is also anticipated to require significant administrative and regulatory burden as

- The AER will have to maintain substantial technical expertise that it currently does not have to manage the huge number of assumptions and technical detail involved;
- TNSPs will have substantial opportunity to 'massage' the input data in order to artificially inflate access prices, and;
- Comprehensive regulation of the *application* of the LRIC methodology will be necessary.

These factors combined mean that access pricing will be extremely complicated to implement, highly disputable and may not produce meaningful cost-reflective prices. The CEC expects that these outcomes are likely remove any possible locational signal benefits of the OFA model and significantly increase costs for consumers.

### ***Robustness of constraint equations***

The OFA model will rely upon the NEM's constraint equations. These are 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.

The new reliance on these equations in financial settlements will expose them to significantly increased scrutiny which it is not clear that they will sufficiently robust to withstand. As the

administrator of the constraint equations AEMO's liabilities, in the event of errors leading to incorrect access compensation over a period of time, are also not clear.

Furthermore, as very few organisations have the ability to formulate and critique constraint equations at present. There is likely to be a deficit of technical ability to address the likely hood that disputes will arise in this area.

### ***Can market-led network development promote better outcomes?***

OFA intends to promote market-led investment within the monopoly controlled transmission asset base, thereby reducing network regulation. This is unlikely to be feasible – it is an inescapable fact that networks a natural monopoly, and must therefore be regulated. In reality, OFA will simply shift the regulatory burden rather than reduce it. Under the proposed arrangements efficient regulation is likely to become significantly more difficult to achieve.

It is the CEC's view that regulating the LRIC pricing methodology will be require significant effort which has not been accounted for.

The LRIC proposal 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 thus far.

The Commission has not presented any convincing analysis to demonstrate that the approach of encouraging market-led investment within a monopoly setting will produce better outcomes than the present approach, particularly given the significant increase in regulatory complexity.

In the CEC's 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.

### ***Impacts on consumers***

The risks and costs for consumers could be substantially increased with the implementation of OFA. As noted by the Commission costs that exceed access prices will be borne by consumers<sup>18</sup>. Consumers also wear the costs of additional administrative effort and regulatory burden.

This discussion highlights that consumers are likely to be exposed to significant costs and risks arising from

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<sup>18</sup> AEMC, 2014, *OFA Discussion Paper: Pricing in the Optional Firm Access Model*, p. 5.

- Over building of transmission augmentations;
- Significant increases in complexity, leading to generalised cost increases for all stakeholders which will ultimately be borne by consumers;
- Exposure to costs for transmission augmentations which exceed access request expectations and which TNSPs may not be able to recover from access charges, and increased financing costs for TNSPs who are exposed to higher risk if they cannot recover this shortfall via TUoS charges;
- Inflated costs produced from LRIC as a result of numerous and diverse assumptions, inaccurate demand forecasting, 'locking-in' assumptions, repetitive LRIC assessments for the same flowgate, assumed perfect information feeding into the RIT-T;
- Increased use of dispute resolution from capital cost error margins, arbitrary selection of baseline LRIC inputs, and dispute over constraint equation settings;
- Significant increases in regulatory burden resulting from increased expertise required in the AER, increased incentives and opportunities for TNSPs to manipulate outcomes, regulation of the application of the LRIC priding model, and;
- Creating impediments to efficient regulation.

The complexity of the proposed OFA model has been acknowledged at numerous occasions, 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 high degree of complexity combined with the low materiality of the problems that the Commission is seeking to address with OFA, and the likelihood that the OFA model will create new risks and inefficiencies, suggest that the cost of the OFA model will outweigh any possible benefits.

The ideal case cited by the Commission where differences in prices are balanced over time to be effectively zero<sup>19</sup> is extremely unclear. Subsequently, it is not clear that the risks for consumers are unbiased.

For these reasons, the CEC and our members neither support continued development of, or implementation of OFA. The increased risk profile for consumers must be very carefully considered before proceeding any further with this review.

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<sup>19</sup> Ibid.

## 4 Transitional arrangements

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. Further, the Commission has not demonstrated that it would do so.

The CEC is of the view that, if OFA is to proceed, adjustments to the transitional provisions would be essential. This following discussion notes a number of concerns that the CEC has with the transitional arrangements which should be addressed by the Commission.

The stated objectives of the transitional arrangements for OFA are:

- **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 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 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 implementation method would likely determine the outcome for OFA. 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. This

outcome would be closer to the “*level of firm access that they would choose to pay for*” which underpins the concept of ‘optionality’ as considered by the Commission<sup>20</sup>.

### ***Gift of the existing shared network***

It is essential to bear in mind that the proposed transitional arrangements would constitute a gifting of (potentially) substantial value to incumbent generators<sup>21</sup>, which is denied to all new entrant generators. This is effectively appropriating wealth from consumers to incumbent generators, while creating sanctioned discrimination between market participants: creating a significant competitive disadvantage for new entrants while subsidising incumbent generators.

New entrants would need to make substantial access payments, or pay compensation payments to incumbents whenever constraints bind. This competitive disadvantage will necessitate the procurement of firm access, negating the concept of optionality.

The assertion that generators should receive the level of access they currently enjoy<sup>22</sup> is incompatible with a market in which investments were made on the assumption that access was not firm and congestion risk is present. Gifting firm access to an incumbent represents an increase in their level of firm access by creating a barrier to new entrants and protecting the recipient against future developments.

Incumbent generators would basically receive a subsidy that allows them to collect compensation payments from any new entrants, which they did not have prior to OFA being implemented. Again, this is sanctioned discrimination which represents a competitive disadvantage for new entrants.

The CEC notes the Commission’s views on this matter, denying that the proposed transitional arrangements constitute a barrier to new entrants or a competitive disadvantage<sup>23, 24</sup>. The arguments contained therein are nonsensical. 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. It can only be a competitive disadvantage, which by definition, is a barrier to entry.

The argument that there “*will be plenty of other locations where new generators can and will locate*” is also nonsensical. The stated goal of transition is to “*maximise transitional*

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<sup>20</sup> AEMC, 2012, Technical Report: Optional Firm Access, p. 15.

<sup>21</sup> While the CEC acknowledges that this is intended to be a transitional arrangement, it is the CEC’s view that the length of time proposed for this transition overcomes this intent.

<sup>22</sup> Ibid, p. 67.

<sup>23</sup> AEMC, 2012, Technical Report: Optional Firm Access, p. 67.

<sup>24</sup> AEMC, 2014, Optional Firm Access Review, First Interim Report, p. 111.

access”<sup>25</sup>, allocating as much of the existing shared network as possible to incumbent generators. This implies that the Commission’s 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 proposed cost of firm access paid by incumbents (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 (2-3 years) and sculpted back rapidly to zero or very low levels. This is not what has been proposed, with transitional access retained by incumbent generators for a timeframe close to their residual life<sup>26</sup>. Even if a carbon price is reimposed, the majority of incumbent generators are expected to remain viable until 2040 and beyond<sup>27</sup>. Therefore this sanctioned market distortion will remain for the foreseeable future.

The proposed arrangement of allocating the entire existing shared network capacity to incumbents could only be sensible if it were for a very short period of time (2-3 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 *close to the residual life* of the existing assets presents a clear and ongoing 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 *from* the market.

### ***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 will likely have a high value, so all incumbents will act to increase their allocation and the duration of the transitional period as far as possible.

The allocation process will be complex, highly challenging, and involve very high stakes. It will be exposed to dispute at almost every step and is likely to require numerous arbitrary decisions<sup>28</sup>.

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

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<sup>25</sup> Ibid, p. 65.

<sup>26</sup> AEMC, 2014, *Optional Firm Access Review, First Interim Report*, p. 118.

<sup>27</sup> Treasury, 2011, *Strong Growth Low Pollution Future*.

<sup>28</sup> AEMC, 2012, *Technical Report: Optional Firm Access*, p. 65.

to changes in any one of thousands of input assumptions, each of which cannot be accurately determined, and expose the constraint equations to immense scrutiny. Difficult decisions will need to be managed in these circumstances. Conflicts could be numerous, ongoing and very costly.

The largest organisations are likely to be able to most effectively engage in 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 larger well-resourced organisations. Smaller market participants who do not have full time trading desks will be significantly disadvantaged from the transition.

### ***Auctioning of the existing shared network***

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’.

If the OFA model were to be implemented (which is not supported by the CEC), the only sensible approach to implementing OFA is to auction firm access, with generators who wish to purchase it doing so in a competitive process. This would subsequently allow the market to determine the value of firm access, rather than allowing the Commission’s somewhat arbitrary view that it *has* a value to dictate market outcomes.

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 National Electricity Objective.

### ***Conclusions***

The CEC is extremely concerned that there has been a lack of assessment of potential alternative transitional arrangements for OFA. The latest work in the First Interim Report makes a cursory consideration the fact that alternatives exist, yet the Commission has made



no attempt to consider their relative merits of them<sup>29</sup>. This indicates that the Commission is acutely aware that a process in which generators are required to pay for an access service (which they do not have currently and did not expect when they made their investments) is likely to undermine the purported benefit of OFA.

Despite the long term objective of OFA being to encourage generators to procure a firm access service the Commission does not appear to be willing to consider a transitional arrangement which requires firm access to be purchased from the outset.

The CEC contends that it is likely that increased wholesale prices that will result will immediately highlight a fundamental flaw in the OFA: If it cannot deliver benefits immediately in an environment in which generators have to purchase firm access from the onset, then it is unlikely to provide any benefits in the long term as procuring firm access is OFA's ultimate goal.

Application of an auction process to implement OFA (instead of free allocation) allows the market to set a value of firm access and removes many of the issues identified above including:

- Sanctioned disadvantage for new entrants, 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, and;
- If the auction is conducted in a gradually increasing fashion, the stated intentions of the transitional arrangements should be better achieved.

The CEC reiterates that it and its members do not support the implementation of OFA in any form. The costs and risks presented by OFA are extremely unlikely to be surpassed by any benefits of the proposed reforms.

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<sup>29</sup> AEMC, 2012, *Technical Report: Optional Firm Access*, p. 108.