

4 September 2014

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Dear John

### **Optional Firm Access Design and Testing First Interim Report (EPR0039)**

Grid Australia is pleased to make this submission in response to the Australian Energy Market Commission's (The Commission) First Interim Report on Optional Firm Access, Design and Testing. The First Interim Report is described as a "progress update" to obtain stakeholder feedback on the AEMC's further development of the "core" aspects of the optional firm access model.

Consistent with the structure of the First Interim Report this submission sets out Grid Australia's views in the following areas:

- Assessment framework;
- Firm access standard;
- TNSP incentive scheme;
- Issuance of the long-term inter-regional access product;
- Short-term firm access;
- Transitional access; and
- Staged implementation.

Overall, Grid Australia considers Optional Firm Access (OFA) to be a potentially positive development for the National Electricity Market (NEM). Grid Australia supports a framework that provides greater market based signals to guide investment in the transmission network. Given the natural monopoly characteristics of electricity transmission networks, and the established regulatory frameworks for transmission, opportunities for reform such as that provided by OFA are rare.

However, given the expected high costs of implementing OFA, Grid Australia expects that the Commission would only recommend its implementation if (a) the Commission can clearly demonstrate that there are quantifiable net benefits that will accrue, and (b) the elements of the

OFA model including those which have not yet been released, notably the pricing mechanism, prove to be practically workable.

Grid Australia notes that the NEM environment has changed considerably since the OFA model concept was first developed as part of the Transmission Frameworks Review. As the Commission is aware, future trends in network demand are uncertain, and the need to continually expand networks can no longer be taken for granted. Grid Australia considers the Commission should ensure the OFA model is sufficiently flexible to be adopted in a low growth or negative growth environment, and that the model is not reliant on continuing network expansion to deliver the required efficiency benefits.

### **Assessment Framework**

The primary assessment of the merit of the OFA model must be whether it is consistent with the National Electricity Objective (NEO) set out in the National Electricity Law (NEL). The NEO is directed to the promotion of efficient investment in, and efficient operation and use of electricity services for the long-term interests of electricity consumers. At its heart the NEO is an efficiency objective that covers the three fundamental limbs of efficiency; allocative efficiency, productive efficiency and dynamic efficiency.

In order to guide the assessment process, the Commission has proposed assessing the impact of the OFA model, compared to the status quo arrangements for generation and transmission investment and operation, against the following nine criteria:

- Financial certainty for generators;
- Effective inter-regional hedging;
- Incentives of TNSPs to operate the network more efficiently;
- Efficient dispatch of generation;
- Efficient incentives on TNSPs to manage trade-offs between operation and investment;
- Efficient investment in new network capacity;
- Efficient investment in new generation capacity, including locational signals on where to build plants;
- Efficient allocation of risk; and
- The level of transaction costs.

Grid Australia observes there are many possible ways to categorise the impacts that OFA could have on the NEM. Nevertheless, Grid Australia considers that the categories proposed by the Commission are reasonable and capable of capturing all potential impacts.

The First Interim Report notes that the Commission “will also assess the impacts across a range of scenarios, which include considering different future views of the NEM”<sup>1</sup>. Grid Australia supports the use of such scenario testing to validate the benefits of the OFA model across a range of possible futures.

The Commission has also identified that it will quantify the impacts of OFA, both positive and negative, where it is possible to do so. Grid Australia considers that, given the expected high implementation costs, implementation of OFA should be conditional upon a clear quantitative demonstration that the benefits of OFA outweigh the costs. Grid Australia agrees with the Commission that in some instances, a more qualitative assessment will be necessary, particularly around the assessment of some aspects of dynamic efficiency. However, to demonstrate a clear economic case in favour of OFA, the cost-benefit analysis should be predominantly quantitative in nature.

Grid Australia will limit its feedback on individual assessment categories to those categories of most relevance to TNSPs.

#### Efficient incentives on TNSPs to operate the network

Grid Australia agrees with the Commission that financial incentives are likely to provide the most robust and transparent driver for efficient decision making. The introduction of the Market Impact of Congestion (MIC) component to the AER’s Service Target Performance Incentive Scheme (STPIS) for transmission has provided a clear signal for TNSPs to manage network capability to minimise congestion. This has delivered improved market outcomes and Grid Australia would similarly expect an incentive scheme to provide more efficient operational outcomes under OFA than if the model was implemented without an operational incentive scheme.

#### Efficient investment in new network capacity

As noted above, Grid Australia supports a framework that provides market based signals to guide transmission investment. The “benefits accruing to generators” is a key market signal not readily available under the current regulatory arrangements. While the National Electricity Rules have included the potential for funded augmentations for a number of years, the lack of a framework for securing rights as a result of funding that investment has stymied this potential for market led transmission investment.

To date the Commission has focussed on efficient investment in new network capacity. However, many parts of the transmission network were originally developed in the 1960’s and early 1970’s and are now nearing the end of their service life. As elements of the network reach end of life, TNSPs must make decisions on whether to reinvest in those network elements in the form of refurbishment, life extension or replacement. In an environment of static or falling demand there may also be the ability to retire the network element altogether while still meeting reliability of supply obligations. The OFA model offers the ability for generators to signal the value they place on the existing network capacity when network reinvestment or retirement decisions need to be

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<sup>1</sup> AEMC 2014, Optional Firm Access, Design and Testing, First Interim Report, 24 July 2014, Sydney, p18

made. Grid Australia considers that efficient investment in replacement network capacity under the OFA model, compared to the current arrangements, should be included in the Commission's assessment.

Grid Australia is also concerned that the proposed OFA model is not adequate to support long-term investment in additional interconnector capacity. This matter is discussed further later in this submission, but should be considered as a potential negative impact under the assessment framework.

#### Efficient allocation of risk

Under the Commission's proposed assessment framework the efficient allocation of risk appears limited to allocation of risk for transmission investment decisions. Grid Australia considers that the question of efficient allocation of risk should also be considered in the design of TNSP incentive schemes. The current STPIS design excludes events which are not within a TNSP's ability to control through the planning, design or operation of the network.

Grid Australia considers that the impact of events that are not within the control of the TNSP should be spread broadly across the NEM and not allocated 100% to the TNSP. If an event is truly beyond a TNSP's control then there is no incentive property in allocating the risk of the event to the TNSP. This is consistent with certain events being excluded from the measurement of NSP performance in various incentive schemes, including the transmission STPIS and the distribution STPIS.

#### Transaction Costs

In the Transmission Frameworks Review<sup>2</sup>, the Commission set out an illustrative access procurement process. This illustrative process recognised that access procurement would require the introduction of some form of queuing in the processing of access pricing. Given the meshed nature of the transmission network an access request at one location is likely to affect the future access prices at all other locations in the network.

The inclusion of access procurement into the generator connection process will necessarily introduce a queuing arrangement to the connections process which is not currently required. Grid Australia considers that queuing of connections processing will introduce material transaction costs for both generators and TNSPs and needs to be included in the assessment framework.

#### **Firm Access Standard**

One of the key changes the Commission has made to the OFA model since the Transmission Frameworks Review Final Report (TFR Final Report) is the definition of the Firm Access Standard (FAS). Previously the FAS was to be a combined planning and operating standard, but would only apply under normal operating conditions.

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<sup>2</sup> AEMC 2013, *Transmission Frameworks Review*, Technical Report: Optional Firm Access, 11 April 2013, Sydney, p66

The Commission now considers that distinguishing between normal operating conditions and abnormal operating conditions may not be workable. Instead, the Commission is now proposing a Firm Access Planning Standard (FAPS) complemented by a Firm Access Operating Standard (FAOS).

Grid Australia agrees with the Commission's assessment that a distinction between normal and abnormal operating conditions would prove difficult to implement in practice<sup>3</sup>, and Grid Australia considers the current FAPS and FAOS proposal a more workable alternative.

The Commission "expects that the conditions used in specifying the (FAPS) would be determined with reference to the expected occurrences of material constraints in a region." Grid Australia interprets this to mean that FAPS conditions would not be uniformly specified across the NEM but could incorporate features that reflect the conditions specific to that region. Grid Australia also expects that the FAPS conditions could be varied into the future, if the make-up of the power system changes and new congestion issues arise.

Based on this understanding, Grid Australia supports the Commission's proposed process for setting the FAPS. This process would see a set of FAPS principles included in the Rules. The AER would then develop FAPS guidelines that comply with the FAPS principles and TNSPs' detailed FAPS methodologies would be approved by the AER as part of the regulated revenue determination process.

Grid Australia expects that the FAPS would be specified to reflect conditions of minimum "headroom" in network capability. This may be at or near peak demand times, but not necessarily. For some networks the minimum "headroom" in network capability could occur when large synchronous generators are off-line and large amounts of non-synchronous generation such as wind or solar are supplying customer demand. Grid Australia supports this degree of flexibility in specifying the FAPS so it can be adapted to different network topologies and combinations of generating systems. This is consistent with a fit-for-purpose regulatory regime.

At the OFA Public Forum held in Sydney on 14 August 2014 several participants commented on the deterministic expression of the FAPS and queried whether such a form of standard was a retrograde step given recent developments in the setting of jurisdictional reliability standards.

Grid Australia notes that while the form of the standard is expected to be expressed deterministically, the level of the standard will be set by the quantity of firm access procured by generators. Provided that a generator faces competition in procuring a given level of firm access, the generator is inherently expressing an economic choice and so the overall operation of the FAPS framework would be economic. Where effective competition between generators does not exist within a region, and generators therefore may not procure firm access, the quantity of firm access may not be economic.

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<sup>3</sup> This is a different distinction from whether the cause of congestion is within a TNSPs control or not and hence should be excluded from the incentive scheme. Under the previously proposed Firm Access Standard there would be an arbitrary distinction made between a network condition that was considered to have impacted network flows to the extent to be considered 'abnormal', and a condition where it was considered that network flows would be considered 'normal'.

The Commission has also canvassed options for enforcement of the planning standard. Specifically the Commission is “considering whether a breach of the (FAPS) could be considered a conduct provision of the Rules. A conduct provision allows a ‘person other than the AER’ to seek action against another party based on a breach of a particular ‘conduct provision’ clause of the Rules.”

Before considering options for enforcement of the FAPS, Grid Australia considers it necessary for the Commission to first provide clarity around the nature of the relationship between a generator and a TNSP under OFA. Only once that is settled can the question of how best to enforce the FAPS be properly considered.

### **TNSP Incentive Scheme**

While the FAPS will consider a specified set of system conditions, the Commission is recommending that the FAOS apply at all times. As network capability, and hence flowgate capacity, will vary over time the FAOS is intended to incentivise TNSPs to provide a level of access that maximises the value of the access. Grid Australia considers that the combined operation of the FAPS and FAOS reflects the fact that it would be uneconomic to alleviate every constraint that could possibly affect a generator, but those constraints with the most material impacts will be alleviated when the generator indicates this is of value.

If generators bid into the market so as to reflect their underlying costs then flowgate prices will reflect the value that generators place on access to the regional reference price. However, the current market arrangements provide generators the incentive to bid at below their cost in order to get dispatched, knowing that it doesn’t affect the price they get paid. It is this incentive to engage in disorderly bidding that led to the design of the current Market Impact Component of the STPIS, which only considers a \$10 materiality threshold.

If the OFA model results in flowgate prices that more accurately reflect the value of access then Grid Australia agrees it would be appropriate to have the incentive scheme designed to more directly reflect this value.

Grid Australia sees two key elements in the design of an appropriate operational incentive scheme:

- The target level of access against which the penalty/ incentive regime will be measured; and
- The structure of caps and collars to limit TNSP risk and rewards, while maintaining incentives over the measurement period.

The design of the target level of access determines whether the scheme will operate symmetrically or asymmetrically. The Commission has recognised that a TNSP is not expected to provide the full level of firm access under all conditions. There will be periodic forced outages and planned outages will need to be scheduled to enable maintenance to occur. Furthermore, there may be congestion which infrequently arises under power system conditions which fall outside of the FAPS, which the TNSP is therefore unable to consider when planning to meet the FAPS. As the FAOS will apply at all times, the Commission is proposing that the incentives operate symmetrically. That is, the target level of access will be set less than the full level of

access. The target level will be set to reflect the expected level of congestion. Grid Australia supports this design choice.

The Commission has proposed the TNSP incentive scheme be designed with a series of “nested” caps and collars. That is, instead of a single annual cap there might also be a monthly cap, which would be higher than simply 1/12 of the annual cap, and so on. This is to avoid a situation where a large shortfall event occurs early in the year and there is no further incentive on the TNSP to maintain flowgate capacity for the rest of the year. Grid Australia agrees with the Commission that the potential for a single large shortfall event to reach the incentive cap means that the scheme would benefit from such a design.

In the First Interim Report the Commission has put forward two possible models for the TNSP incentive scheme. The two models are:

1. Target shortfall factor – the benchmark level of access is set as a fraction of the full level of firm access by a T-factor
2. Annual shortfall target – the benchmark level of access is set as an annual target of shortfall costs

Under option 1 any penalties/ rewards under the scheme (up to any relevant nested cap or collar) are settled through the half-hourly access settlements run by AEMO.

Under option 2 penalties/ rewards are accrued across the whole year (subject to any applicable caps or collars) and then recovered in the following year.

While both options address, at least in part, the design challenges identified by the Commission, Grid Australia considers option 2 to be a preferable design. The issues that Grid Australia has identified that lead to this preferred option 2 are summarised below.

If a penalty cap is reached in two separate half-hours for two separate generators option 1 would pay the same penalty amount to each generator, regardless of the relative magnitudes of the two shortfall events. Under option 2 it would be possible to apportion the financial penalty in proportion to the shortfall experienced by each generator. While this may not ultimately be the final design choice it is possible to do so under option 2, but not under option 1.

Even with nested caps it is still possible to exhaust an annual cap before the end of the year. Under option 1 a generator that experiences a shortfall event late in the year may not receive any penalty money through settlements if the annual cap has already been reached. Under option 2 the annual cap amount could be distributed across all generators that experienced shortfall events throughout the year, even if an event had occurred at a time after the cap had been reached.

There may be disputes or contentions around the cause of a particular shortfall event or the contributions to an event of multiple TNSPs. Under option 1 there is no obvious party that can resolve such disputes prior to settlement having to occur. Under option 2 the AER could resolve any questions of cause or responsibility prior to any payments having to be made under the incentive scheme.

Under option 1 an annual average shortfall factor is established, but is then applied to measure the quantity of shortfall in every single half-hour in the year. Option 2 also establishes an annual expected shortfall amount, expressed as a dollar value of shortfall costs, but then measures the performance on the same annual basis. Grid Australia considers Option 1 to be a poorer design choice in applying an annual average T-factor to each half-hourly settlement.

Grid Australia considers the two design options have similar incentive properties on TNSPs. As the scheme is intended to function as an incentive scheme on TNSPs, not as a compensation for lost market opportunity, Grid Australia considers Option 2 also better reflects the intended function of the scheme. It would also be administratively simpler than adding yet another element into the new and already complex access settlements process.

The Commission has also asked how the nested caps and collars should be structured, specifically is it necessary to define these caps all the way down to trading intervals. Grid Australia considers a trading interval cap is necessary to maintain the incentive properties of the scheme. Without a trading interval cap the next higher level cap could be quickly reached before any reasonable time for the TNSP to respond.

Using the example figures provided in the First Interim Report, if there was no trading interval cap then the daily cap of \$200,000 could be quickly reached for even a modest shortfall quantity at a near Market Price Cap price. For example, a 50 MW shortfall at \$10,000/MWh is \$250,000 per trading interval. There is little that a TNSP can do in a single half-hour to investigate and diagnose the cause of an unplanned outage, much less undertake corrective action in the field.

### **Issuance of the long-term inter-regional access product**

In the First Interim Report the Commission is recommending that issuance of long-term inter-regional access would be solely through an auction process. If the auction clearing price exceeds the reserve price necessary to expand interconnector capacity, the TNSP will proceed directly to do so in the timeframe necessary to meet the issues firm access quantity. This is a change from the TFR where the auction was intended as only a first step to reveal demand for inter-regional access and a second step would involve a joint investment test (similar to a RIT-T). The second step would consider the benefits that would accrue to parties other than generators.

Grid Australia is concerned that an auction alone will not reveal the value of a long lived investment, such as augmented interconnector capacity, that delivers benefits to multiple parties, both existing and future. Grid Australia's concerns can be summarised in two questions for the Commission:

1. How is the value of enhanced interconnector capacity to future generators (i.e. unannounced or uncommitted at the time of the auction) revealed or ascertained?; and
2. Can the demand side, presumably represented by Retailers, make sufficiently long-term commitments to underwrite new long-lived investments?

In the case of question 1, the value of access to future generators is at least inferred through the forecasts of future access requests.



In the case of intra-regional firm access issuance, question 2 is answered through the combination of demand side reliability standards still being maintained, and the conduct of a RIT-T assessment before any network expansion needed to meet the firm access standard.

Grid Australia considers that the proposed auction process for long-term inter-regional access issuance should be able to be complemented with additional analysis, along the lines of the RIT-T, as originally proposed in the TFR, to ensure the most efficient long-term investments are made to maximise net market benefits.

### **Short-term firm access**

The Commission has raised a number of issues around short-term firm access and it is not clear that a preferred model has been identified. Consistent with the principles of incentive based regulation, Grid Australia considers that financial incentives are the best means to ensure TNSPs look for opportunities to increase network capacity.

Grid Australia suggests that the option exists to replace the recently introduced Network Capability Incentive component of the STPIS with the short-term firm access auction proposal. Under this model the TNSP would identify options for smaller-scale investments to increase network capacity and offer this capacity into the auction at a suitable reserve price. Generators could then directly signal whether or not they value that additional capacity. The TNSP would retain any auction proceeds and so would be incentivised to look for network capability improvements that are valued by generators in the market, that is, will clear through the auction mechanism.

The Commission has specifically asked whether stakeholders consider TNSPs should be obligated, or heavily incentivised, to release short term access. As stated above Grid Australia considers that incentives are preferable, and a strict obligation to release perceived spare capacity could result in sub-optimal outcomes. For example, assets nearing the end of their service life may currently provide spare network capacity which would be an obvious candidate for short-term firm access auction. However, a TNSP may plan to retire such assets part-way through the short term firm access period. Any obligation to release short term access would need to consider such situations. The use of dynamic transmission line ratings also has the potential to release additional transmission line capacity, but there is a risk that this capacity may not be available at all times. TNSPs are best placed to make trade-offs between such planning, operational and risk considerations.

The Commission has indicated that the auction reserve price would be zero<sup>4</sup>. Grid Australia considers such a design choice would inhibit the ability and incentive for TNSPs to investigate and pursue small scale investments to improve network capability. If the short-term firm access auction were to replace the Network Capability Component of the STPIS it would be necessary for a reserve price to be set to reflect the costs to a TNSP to invest to release that additional capability.

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<sup>4</sup> AEMC 2014, Optional Firm Access, Design and Testing, First Interim Report, 24 July 2014, Sydney, p88

## Transitional access

Grid Australia is pleased the Commission has identified transmission network replacement drivers as an issue to be considered as part of transitional access. It may be that a network element approaching the end of its service life could be retired and the TNSP can still meet its obligations under jurisdictional reliability standards. However removing the element from service might reduce the level of access provided to one or more generators. In these circumstances, Grid Australia considers it would be inappropriate to force consumers to pay to replace the network element that is not needed for supply reliability in order to provide transitional access to generators.

Grid Australia considers it would be beneficial for the Commission to consider transitional access arrangements in the context of a scenario of low or declining demand.

The OFA model should be designed so that the value of access reflects future levels of network capacity and demand for access, including where network capacity is forecast to reduce as a result of network asset retirements, or replacement with lower capacity assets. Implicit in this design choice is the transition of the RIT-T from its current form, which includes market benefits that accrue to generators, to that which is proposed to apply under OFA, in which such market benefits are excluded. Given the long lead times associated with transmission network projects, TNSPs may need to make decisions about asset replacement versus retirement well in advance of the transitional access period. This may necessitate transitional arrangements to the RIT-T being introduced prior to other aspects of the OFA model.

## Further consultation

The Commission has indicated that it will shortly be publishing a Supplementary Report: Pricing, which will describe in more detail the Long Run Incremental Cost (LRIC) pricing model. At the same time the Commission intends to publish a prototype of the LRIC pricing model for stakeholders to consider and provide feedback on. Grid Australia looks forward to participating in these next steps in the design and testing of the Optional Firm Access Model.

If you have any question regarding this submission please contact Brad Harrison of ElectraNet on (08) 8404 7568 or Greg Hesse of Powerlink on (07) 3860 2632 in the first instance. I can also be contacted on (08) 8404 7983.

Yours sincerely



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