

27<sup>th</sup> April 2015

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

Submission lodged online at: [www.aemc.gov.au](http://www.aemc.gov.au)

Project Number: EPR0039

Dear Mr Pierce

### Draft Report Submission

Snowy Hydro welcomes the opportunity to make a submission to the Optional Firm Access (OFA), Design and Testing Draft Report.

Snowy Hydro Limited is one of the National Electricity Markets largest generators by capacity. We provide energy to the National Electricity Market from our portfolio of generation plant which includes the Snowy Mountains Scheme's renewable hydro generating units with a combined generating capacity of 3950 megawatts (MW) and our gas fired generating portfolio of 620MW in Victoria. In addition, we own Red Energy and Lumo Energy, who retail electricity and gas in Victoria and New South Wales and electricity in South Australia and Queensland. Collectively, they service approximately one million customers.

Snowy Hydro supports the AEMC's assessment that the implementation of the OFA would not contribute to achievement of the National Electricity Objective.

We disagree with the AEMC that the OFA model could be implemented in a changing and uncertain investment environment. On its own merits we have evidence to conclude that the OFA model is sub-optimal compared to the current market design. Hence regular monitoring of conditions in the NEM which would trigger the re-consideration of the OFA model is not required. Our detailed submission is contained in the body of this submission.

Snowy Hydro appreciates the opportunity to make a submission to this Draft Report. Should you have any enquires to this submission contact Kevin Ly on [kevin.ly@snowyhydro.com.au](mailto:kevin.ly@snowyhydro.com.au) or on (02) 9278 1862.

Yours sincerely,



Roger Whitby  
Executive Officer, Trading

## 1.0 OFA should be abandoned not deferred

The AEMC's Optional Firm Access Draft Report maintains qualitative arguments in favour of OFA. It found the benefits do not presently outweigh implementation costs of approximately \$90 million for the first five years.

The AEMC has signalled potential implementation if/when:

- A need for more generation and/or transmission investment re-emerges; and
- A more uncertain investment environment – with respect to relative costs, technologies and hence locational decisions (eg due to emissions abatement, RET policies, and changing demand)

Both these conditions are required for consideration of implementation.

Accordingly the AEMC will keep a watching brief of these conditions as an adjunct to the Commission's existing annual Last Resort Planning Power functions.

Snowy Hydro was part of a coalition of Market Participants which included AGL, Origin Energy, Hydro Tasmania, and Stanwell Energy who commissioned Frontier Economics to do a qualitative and quantitative assessment of the OFA model. This was the most comprehensive study to date into the merits to the OFA model since the emergence of the OFA concept from the Transmission Frameworks Review (TFR) in 2012.

Frontier Economics concludes that:

1. OFA is a radical change to the wholesale market to address some minor problems;
2. It does not alleviate transmission congestion and merely changes the symptoms;
3. OFA increases rather than decreases the importance of the planner's prior views in driving transmission & generation investment decisions; and
4. Ultimately, OFA is extremely complex and affects the fundamental operation of the NEM and is consequently a high risk solution.

Snowy Hydro agrees with these conclusions. We were the only Participants in the NEM subjected to a local nodal price through the implementation of the Tumut Constraint Support Price / Constraint Support Contract (CSP/CSC). Through this experience we can practically relate to Frontier's negative assessment of the OFA model.

As the AEMC points out since 1997 there has been no fewer than eleven (11) major reports and reviews dealing with various aspects of congestion management and generator access. The extensive work on the OFA model to date and the fact that the AEMC concludes that the benefits associated with OFA does not outweigh the implementation costs means that this review should be last of its kind for many years to come.

On its own merits the OFA model does not satisfy the National Electricity Objective. A regular monitoring regime to see<sup>1</sup>, "If there are signs that conditions are beginning to change in a way that the benefits from optional firm access could be greater, a process to implement optional firm access could be considered, taking into account the implementation risks involved" creates more unnecessary uncertainty and therefore risks.

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<sup>1</sup> OFA Draft Report page v.

Snowy Hydro advocates that it is time to put OFA model to bed and close off any further reviews of the transmission frameworks / generator access for at least another 5 years. The AEMC may like to consider the appropriate triggers and conditions that would have to be met to instigate another transmission / access review 5 years from the conclusion of the OFA Design and Testing project. If the triggers are met for a review at least 5 years from now then reassess the issue in context of all the factors at the time rather than pick an “off the shelf” OFA model which we believe is inferior to the current regulatory frameworks for the transmission.

## **2.0 The NEM already facilitates efficient co-ordination of transmission and generation**

The AEMC believes that under the OFA there would be better signals between generators and transmission businesses relating to the impacts of investment. This concern has variously been expressed as:

- Transmission investment happens first and distorts generation (TFR Final Report, p.105)
- Generation investment happens first and distorts transmission (OFA Draft Report, p.39)

Either way, the AEMC suggests that TNSPs and generators make investment decisions in ‘silos’. Snowy Hydro believes this is an inaccurate caricature of how TNSPs and generators behave, which is much more iterative and interactive through the RIT-T process.

The OFA Draft Report mentions the RIT-T (p.33) but does not cite it as a source of (implicit) locational signals. The implication is investors only respond to explicit signals.

Snowy Hydro believes there is no evidence presented that the Regulatory Investment Test – Transmission (RIT-T) is deficient such that:

- (1) transmission investment is given preferential treatment over generation investment, or
- (2) transmission investment proceeds even though it’s inefficient<sup>2</sup>

We refer to the example provided by Frontier Economics<sup>3</sup> that locational signals provided by the RIT-T are more powerful than is commonly assumed.

In section 2.1.2 of this report Frontier Economics highlights that:

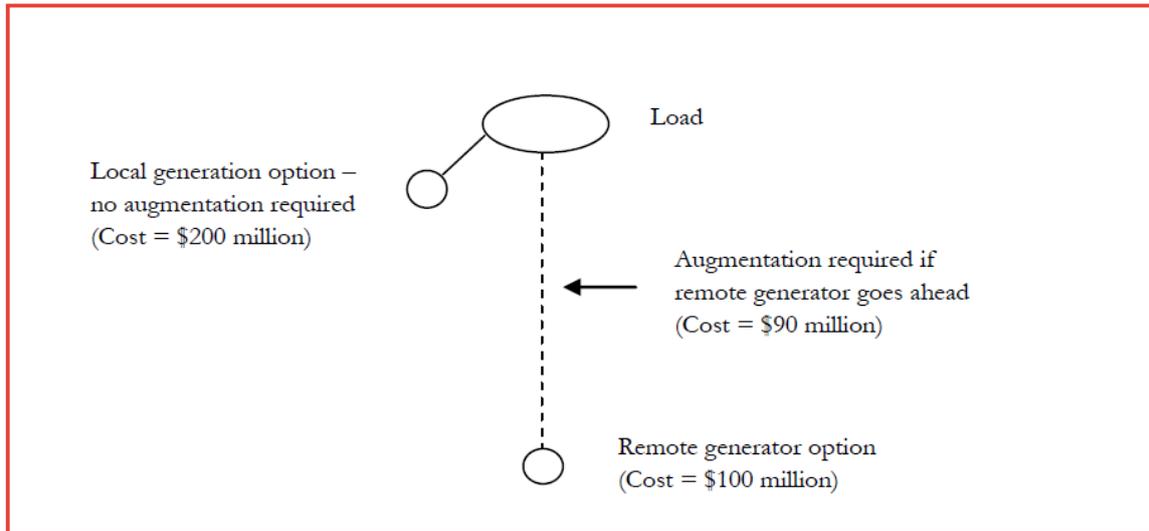
- Under the RIT-T, the TNSP needs to compare the combined cost of generation and transmission at the remote location with the cost of generation at the local location.
- Contrary to the view expressed by the AEMC, the TNSP does not simply consider which option yields the lowest transmission cost. This is because under the RIT-T, a TNSP needs to consider the full ‘market benefits’ of an augmentation option and its alternatives.

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<sup>2</sup> With the exception of transmission investment to meet statutory reliability obligations.

<sup>3</sup> Frontier Economics, OFA – A report prepared for the NGF, October 2012 section 2.1.2

Figure 1: Locational signals from the RIT-T



Source: Frontier Economics

- In the context of the example (replicated in Figure 1 below), the TNSP needs to consider which option yields the larger net market benefit or the smaller net market cost, taking into account the total costs of transmission and generation (as well as other variables such as the degree of load shedding etc).

Given the example figures above, the TNSP would find that it was appropriate to undertake the augmentation because the combined generation and transmission cost of power from the remote option (\$190 million) was lower than the cost of power from the local generation option (\$200 million) – see Table 1.

Table 1: Transmission versus local generation – relative costs

Option	Includes	Total component costs (\$m)	Total option costs (\$m)
Transmission	Augmentation	90	190
	Remote generation	100	
Generation	Local generation	200	200

Source: Frontier Economics

The proponent of a generation investment would have an incentive to make such calculations internally, even before the RIT-T was applied to the augmentation by the TNSP. For example, before investing in the remote generation option, a proponent would have an incentive to conduct the analysis to gain some confidence that the augmentation would satisfy the test and proceed. Likewise, before investing in the local option, an investor would have an incentive to conduct the analysis. In doing so, it would find that it was not worthwhile to develop the local option, as the augmentation (along with the remote generator option) would be likely to go ahead and harm its proposed project.

Frontier Economics concludes that:

*In this way, prospective investors' expectations of how the RIT-T will be applied in the short and the long terms should provide investors with positive (albeit imperfect) locational signals.*

The other important point to note is that the RIT-T involves an extensive and transparent consultation process where all Stakeholders can examine and provide critique of the analysis. This helps ensure the conclusions from a RIT-T consultation are credible.

Further to this, existing processes related to the TNSPs Annual Planning Report provides ample opportunity for the relevant TNSP and all Participants to engage with forward planning assumptions on the location and timing of both generation and transmission investment.

By way of example, TransGrid's 2012 Annual Planning Report<sup>4</sup> section 6.3.3 which outlines proposed network development for the Newcastle-Sydney-Wollongong and stated that:

*TransGrid's analysis indicates the need to first develop the southern link in the ring, particularly to supply the Sydney area and to accommodate southern gas-fired generation development. The northern link would be developed in response to major northern generation or load development.*

Subsequent to this the latest 2014 Annual Planning Report<sup>5</sup> section 7.4.2.5 updates these planning assumptions with additional information to inform the public debate on future transmission investments. The report states:

*TransGrid's analysis indicates the need to first develop the southern link in the ring, particularly to supply the Sydney area and to accommodate the committed renewable generation and gas-fired generation development in southern NSW. **The northern generators at Liddell and Eraring are approaching the end of their lives. The retirement of northern generation is likely to postpone the need for a northern 500 kV link. The northern link would be developed in response to major northern generation or load development** (emphasis added).*

The assumptions underpinning the TNSP's Annual Planning Reports are open to consultation with all Participants.

This example demonstrates strong and valid "implicit" signals in the current transmission regulatory frameworks which guide investment in both generation and transmission.

### **3.0 Access prices under OFA will reflect TNSP's expected patterns of generation investment**

Snowy Hydro is concerned by the Commissions view that,

*The price signals produced by this stylised methodology should nevertheless represent an improvement on the current arrangements, where locational signals are minimal<sup>6</sup>.*

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<sup>4</sup> TransGrid, NSW Planning Report 2012, section 6.3.3 – Further development of supply to the Newcastle-Sydney-Wollongong area.

<sup>5</sup> TransGrid, NSW Planning Report 2014, section 7.4.2.5 – Further development of supply to the Newcastle-Sydney-Wollongong area.

Firstly, we strongly disagree with the Commission's view that the Long Run Incremental Cost (LRIC) prices produced represent an improvement on current arrangements. The claimed efficiency of the co-optimisation between generation and transmission investment relies on the accuracy of the "baseline" transmission plan. The OFA requires a huge amount of centralisation on the part of TNSPs to derive this "baseline" transmission plan. We are highly sceptical that an accurate "stylised" baseline plan can be derived for the transmission system.

For instance, it is acknowledged by the Commission that the LRIC pricing model does not cater for stability, oscillatory or voltage constraints, does not cater for replacement costs, does not consider incremental changes, and the input costs are limited. Furthermore the baseline transmission plan not only requires demand as a major input but the TNSP would have to make assumptions on:

- The future location of new generation;
- The timing of new entrant generation;
- The future generation profiles of incumbent generators; and
- Assumptions in relation to other forms of non-network solutions such as network support and demand side response.

All these assumptions have to be made to derive a long term transmission baseline plan for each network element of a TNSP's network. We believe such a task would not only be methodologically and computationally complex but the results would have a very big margin for error. We therefore have no confidence that the LRIC price model would produce any meaningful price signals given these limitations. Furthermore since the LRIC prices are stylised and bear no direct resemblance to actual planned transmission projects it would be impossible to check the creditability of the LRIC prices.

#### **4.0 Alternatives to optional firm access**

Snowy Hydro have maintained that the current market design on balance recognises the inherent trade-offs in more granular Spot pricing versus the liquidity in the secondary (financial) markets. The current Regional market model in the NEM has seen steady increases in contract market liquidity and volume. This in turn has underwritten capital investment in new generation plant. Hence we don't subscribe to the view that "alternatives" to the OFA model are required to deal with minor issues in the current market design.

We note that Clause 5.4A (h) of the Rules states that:

##### *5.4A Access arrangements relating to Transmission Networks*

*(h) Where the Connection Applicant is a Generator:*

*(1) the compensation to be provided by the Transmission Network Service Provider to the Generator in the event that the generating units or group of generating units of the Generator are constrained off or constrained on during a trading interval; and*

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<sup>6</sup> AEMC, Supplementary Report: Pricing, OFA Design and Testing, page ii

*(2) the compensation to be provided by the Generator to the Transmission Network Service Provider in the event that dispatch of the Generator's generating units or group of generating units causes another Generator's generating units or group of generating units to be constrained off or constrained on during a trading interval.*

Hence there are existing provisions in the Rules which explicitly contemplates compensating Participants for the impact of new connections. This raises the question that if the prevalence of congestion caused by new connections locating at sub optimal locations has indeed been problematic then why have no Participants used these clauses in the Rules to seek compensation?

The Commission have said that it would difficult to determine the "causer" of reduced access on the shared transmission network and so assign costs. We believe this conclusion was reached without adequate consideration of what may be practically done to operationalise and enforce the existing Rules.