9th December 2014

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

Submission lodged online at: www.aemc.gov.au

Project Number: EPR0039

Dear Mr Pierce

Supplementary Report: Pricing
Optional Firm Access, Design and Testing

Snowy Hydro Limited welcomes the opportunity to make a submission to the AEMC's supplementary Pricing report.

Snowy Hydro does not support the continued development of the Optional Firm Access model which no-one fully understands, has no relevance in a low demand and high oversupply environment and contrary to what the AEMC contends increases centralisation of decision making on generation locations.

Snowy Hydro supports retaining the status quo transmission framework arrangements. These existing arrangements have been performing well to date and there is no evidence to suggest that these arrangements won't continue to work in the future. Investors require a stable and predictable period by which to make long term investment decisions.

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*[1].

Firstly, we strongly disagree with the Commission's view that the 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:

[1] AEMC, Supplementary Report: Pricing, OFA Design and Testing, page ii

- 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.

Secondly, we strongly disagree that current locational signals are minimal. As outlined in the Castalia report[2] the NEM has delivered over 10,000 MW of new generation since its inception. Castalia has analysed the location of these investments and concluded that there was no evidence to suggest that these investments were located in the wrong places. That is, the locational signals in the current transmission regulatory frameworks have sufficiently enabled investments to be made to co-optimise the location of generation taking into account all relevant factors including generation and transmission costs. Key points concluded from the Castalia report are reproduced below for ease of reference.

Table 2.1: New Generation Capacity in the NEM—1998 to 2012.

Region	Power Station	Owner	Date	Fuel Type	Capacity MW	Comments
QLD	Callide C	Callide JV	2001	Black Coal	900	Mine mouth power station
QLD	Millmerran	Intergen	2003	Black Coal	852	Mine mouth power station
QLD	Kogan Creek	CS Energy	2007	Black Coal	734	Mine mouth power station
NSW	Colongra	Delta	2009	OCGT	696	Adjacent to gas pipeline, old power station site
NSW	Uranquinity	Origin	2009	OCGT	652	Gas supply from NSW and Victoria
QLD	Darling Downs	Origin	2010	CCGT	618	Adjacent to transmission—supplied by 200 kilometre gas pipeline
VIC	Mortlake	Origin	2012	OCGT	536	Adjacent to transmission—supplied by 80 kilometre gas pipeline
QLD	Braemar 2	Arrow	2009	OCGT	507	Adjacent to transmission—supplied by 80 kilometre gas pipeline
QLD	Braemar 1	Braemar	2006	OCGT	470	Access to gas supply
SA	Pelican Point	International Power	2000	CCGT	461	Located close to load
QLD	Tarong North	Tarong	2002	Black Coal	443	Mine mouth power station
NSW	Tallawarra	Truenergy	2009	CCGT	441	Old power station site adjacent to gas pipeline
QLD	Swanbank E	CS Energy	2002	CCGT	360	Old power station site
VIC	Laverton North	Snowy Hydro	2006	OCGT	320	Located to minimise transmission constraints
QLD	Oakey	ERM	1999	OCGT	304	Access to gas supply
VIC	Valley Power	Snowy Hydro	2002	OCGT	303	Adjacent to existing power station
QLD	Yabula	AGL	2005	OCGT	240	Supports load in North Queensland
TAS	Tamar	Aurora Energy	2009	CCGT	208	Adjacent to major loads

[2] Castalia, Transmission Frameworks Review Submission, 10 October 2012.

SA	Quarantine	Origin	2002	OCGT	207	Access to gas supply
SA	Hallet	AGL	2002	OCGT	201	Access to gas supply
QLD	Colinsville	RATCH	1998	Black Coal	187	Supports load in North Queensland
SA	Lake Bonney	NP Power	2008	Wind	159	High quality wind resource
QLD	Yarwun	Rio Tinto	2010	Cogen	156	Waste heat utilisation
NSW	Redbank	Redbank Projects	2001	Black Coal	148	Located at source of fuel—mine tailings
VIC	Somerton	AGL	2002	OCGT	148	Received network support payments
VIC	Bogong	AGL	2010	Hydro	140	Located at existing dam site
QLD	Condamine	BG	2009	CCGT	135	Adjacent to fuel source
TAS	Bell Bay 3	Aurora Energy	2006	OCGT	120	Old power station site

For all the coal fired power stations access to low cost coal and perhaps cooling water appear to have been key drivers as all are located adjacent to low cost coal resources. While this may have necessitated additional investment in transmission infrastructure, it is likely that overall the benefits of the low cost fuel would ensure a high degree of co-optimisation.

For the gas fired power stations, there is a trend to locate adjacent to major transmission lines with short gas pipelines to the gas source—logical as, all else being equal on an energy basis, transporting gas is usually lower cost than transporting electricity. In other words, as investors must bear the cost of extending the transmission system to their fuel source—given that there aren't transmission lines at the gas field—they are choosing the least cost solution by transporting the gas to a location with good transmission access.

Uranquinity Power Station may not be ideally located from the electricity transmission viewpoint, but its location may have more to do with its location on the gas pipeline linking NSW and Victoria—it can readily source gas from both markets. The location of Somerton and Laverton power stations appear to have been driven largely by electricity transmission considerations—that is there appears to have been a deliberate choice to locate in transmission rich areas, again suggesting a high degree of co-optimisation has been achieved from existing locational signals. We understand that Somerton received some revenue benefit from avoided transmission costs.

An important factor is the re-use of existing power station sites—logical as there is already transmission access and planning approvals may be less problematic. Colongra, Tallawarra and Swanbank E have all been constructed on existing sites where generation has been de-commissioned.

Examination of the new generation investments made in the NEM does not show any obvious examples where the increased locational signals proposed under OFA would have materially altered the locational decisions made by investors. While there may be debate about some individual power stations, there is no clear trend towards demonstrably inefficient locations—given other factors such as access to low cost and secure fuel supplies—or have led to inefficient transmission investment. To put it another way, there is no reason to believe that—had OFA been in place—a different set of locational choices would have been made, resulting in lower combined transmission and generation investment.

Laverton North is an open cycle gas turbine generator commissioned by Snowy Hydro in 2006. This development was listed in the Castalia report (table 2.1 above). We highlight this particular investment because Snowy Hydro's locational decision to locate at Laverton North

in Victoria was co-optimised with consideration of both transmission and generation costs. As part of locating Laverton power station Snowy Hydro agreed to pay for Brooklyn reactors on the Victorian shared transmission network. This investment costed Snowy Hydro approximately $10 million and we received no explicit rights to the shared transmission network.

This is a great example of a Market Participant making logical locational investment decisions which are co-optimised with consideration of both transmission and generation costs under the current transmission regulatory frameworks.

In summary we have shown that the current locational signals already ensure co-optimisation of generation and transmission investment. The OFA with its multi layered complexity, stylistic LRIC prices which may inaccurately represent actual transmission costs, unknown implementation risks, probable negative impacts on the Contract markets, and ambiguous impacts to Spot market behaviour means the case for fundamental market redesign has not been made.

Snowy Hydro supports the status quo

In summary Snowy Hydro supports the current transmission regulatory frameworks. The status quo (with minor improvements) is the best market design given the necessary competing trade-offs.

In the current Open Access regime new entrants will only locate where they have some strategic advantage over incumbent generators. If this new entry displaces incumbent generators transmission access to the market then is an efficient outcome.

A move to a much more centrally planned arrangement (which is what the OFA is because of the requirement to develop a theoretical transmission pricing plan) will not meet the market objective test.

Snowy Hydro appreciates the opportunity to respond to this supplementary report. I can be contacted on (02) 9278 1862 if you would like to discuss any issue associated with this submission.

Yours sincerely,

Kevin Ly
Manager, Market Development & Strategy