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AEMC Reliability Panel

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### **Submission to: ROAM Draft Report**

Snowy Hydro appreciates the opportunity to comment on the Roam Draft Report.

It is important to acknowledge that the NEM has delivered a steady stream of investments to meet the reliability standard. These investments have been predicated on a stable pricing envelope where the Market Floor Price (MFP) has been steady at -\$1000/MWh and the Market Price Cap (MPC) has progressively increased. All these investments are long lived assets with 30+ years of economic life. It would introduce sovereign risk for these investments if this pricing envelope is significantly modified by either increasing the MFP (making it less negative) or decreasing the MPC.

Snowy Hydro is concerned with Roam's observations from Stage 4 of the Draft Report. This section looked at assessing the MFP. The MFP and the MPC provides a pricing envelope for the market to clear. As envisaged by the ACCC when it granted authorisation for the NEM to proceed the eventual aim was to reach a situation where there was no need for both a Price Floor and Price Cap. That is there are no limits to where the market could signal the marginal cost of 1MW supply of demand. From this perspective it would seem incongruous for the Floor Price to be readjusted up and thereby reduce the pricing envelope for negative prices.

There is inconsistency in the approaches used to determine the Price Cap and the Floor Price. With the Price Cap the aim was to derive a price that would make a new entrant gas turbine viable when a NEM region experiences 0.002% unserved energy. In order to calculate this Price Cap Roam had to withdraw over 8000MW of NEM capacity. Whereas with the Floor price the analysis was based on the marginal cost of cycling. If we applied a similar approach to that used with the Floor price we would be looking at a Market Price Cap in the vicinity of \$300 to \$500/MWh to reflect the costs of liquid fuels.

We advocate an analogous methodology to that applied to the MPC for the determination of the MFP. This would entail assessing what level the MFP has to be to encourage new entrant technologies that could alleviate excess generation. These technologies may be pump storage, storage batteries etc. The concept is that the MFP has to be sufficiently low to provide an appropriate pricing signal to these new entrant technologies.

The Roam draft report on page 2 states that, "The market floor price has previously been a reliability setting which has not been subject to a quantitative review. In this assessment, ROAM has performed cycling analysis based on week-ahead unit commitment (WAUC) modelling to review the suitability of the existing market floor price;" Snowy Hydro believes this is factually incorrect. NEMMCO had consulted on this issue in 1999 when it was

determined that -\$1000/MWh was a reasonable number to ensure voluntary Spot price clearance.

With the escalating RET and more intermittent generation Snowy Hydro expects intermittency to become more pronounced. Hence a more lower MFP would be required to allow more efficient signalling of the cost of cycling. For instance if the MFP was raised higher (to a more positive value) it may be cheaper for plant with relatively low cycling cost to pay the MFP instead of cycling. As a result it does NOT allow generators with higher cycling costs to continue to operate during periods of low demand. Instead these generators would have to incur high cycling costs which is inefficient because cheaper (lower cycling cost plant) would have been prepared to cycle instead of paying the MFP if the MFP was more appropriately set at a lower (more negative) value.

Roam's Table 8.3 in their Draft Report is shown in the figure below. It can be seen from this table that a -\$1000 MPF is an appropriate setting for 1 hour of cycling costs.

*Table 8.3 – Market Floor Price Requirement for 1 Hour Cycling*

Cycling Class	Minimum MFP	Maximum MFP
Small sub-critical coal	-594	-299
Large sub-critical coal	-758	-342
Supercritical coal	-674	-444
CCGT	-240	-81

Snowy Hydro believes that much shorter cycling (ie. less than 1 hour) would be required in the future as the Renewable Energy Target ramps up to 41,000 GWh and the number of solar voltaic rooftop generators continue to grow in popularity.

With respect to the Renewable Energy Target AEMO's analysis in the 2011 National Transmission Network Development Plan examined the potential variability and rates of change from wind and demand. AEMO examined a scenario in 2019-20 in their Decentralised World-Medium 50% scenario. A simplified version of table 4-3 is reproduced in Table 1 below.

	QLD	NSW	VIC	South Aus	Tas	NEM
Maximum hourly increase (wind)	0	375	590	914	604	1517
Maximum hourly decrease (demand)	697	1153	930	347	372	2281
Maximum hourly variability (wind & demand)	697	1528	1520	1261	976	<b>3798</b>

Table 1.

From table 1 above the hourly variability from an increase in wind output and a decrease in demand could be as high as 3798 MW. This is a very large variation for the hour and hence it is conceivable that thermal generators may be required to cycle for short intervals such as an hour. Hence this analysis supports our assertion that the Market Price Floor needs to be sufficiently negative to allow economic cycling.

In summary Snowy Hydro strongly advocates that the Roam draft report is an input into the Reliability Settings and not the main determinant of any potential changes to the settings. Other considerations such as the stability of the regulatory settings, investments to date, sovereign risk factors are all equally important inputs into determining whether there is a need to amend the reliability settings.

The current reliability settings have provided strong incentives investments to meet the reliability settings and for Market Participants to implement prudent risk management practices. Any potential changes that superficially aim to reduce this risk may introduce moral hazard whereby Participants are reliant on the Regulators to manage their risk.

Snowy Hydro appreciates the opportunity to respond to this consultation. We look forward to further consultation with the Reliability Panel. Please contact me on (02) 9278 1862 if you would like to discuss any issue associated with this submission.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'K. Ly', with a stylized flourish at the end.

Kevin Ly  
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