30th November 2015

Australian Energy Market Commission
PO Box A2449
Sydney South NSW 1235

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

Project Number: ERC0189

Dear Mr Pierce

Demand Side Obligations to Bid into Central Dispatch Rule 2015 – Consultation Paper

Snowy Hydro appreciates the opportunity to comment on the Consultation Paper. As outlined in our Rule change we believe there is clearly a problem with the current arrangements.

At present, operators of non-scheduled load have unfettered ability to curtail load in response to spot market outcomes with no obligation to inform the market of their consumption intentions with respect to price. Snowy Hydro believes this current situation is causing material inefficiencies and is detrimental to the price discovery process.

This rule change would require operators and/or their agents (ie. Retailers) of non-scheduled load which are greater than 30MW and sensitive to or intend to be sensitive to spot price to inform the market of their intentions by bidding into the central dispatch process. This would advance the National Electricity Objective by:

- A more efficient price discovery process resulting in:
    - The Projected Assessment of System Adequacy (PASA) and pre-dispatch processes taking into account responsive load; and
    - Better price forecasting for all Participants.
- Better reserves forecasting for AEMO;
- Allowing AEMO to better formulate and manage transmission constraint equations for adequate system operation and the maintenance of the power system security; and
- More efficient contract markets as prices will be set based on more accurate forecasts of underlying supply and demand.

We believe that it is important for the integrity of the price setting process that there are symmetrical Rules obligations for loads which currently apply to scheduled generation. That is, both need to inform the market of their intentions and to honour these bid/offer intentions. If it is

deemed not important for major loads to signal market price intentions and honour these intentions, it is by definition not important for scheduled generation to do the same.

We note that the efficacy of the price discovery process will become more challenging with macro factors in a dynamic NEM environment with increasing distributed generation, battery/energy storage, technological and innovation change, and penetration of interval metering. Requiring loads to inform the market of their intent and honouring this intent would reduce the some uncertainty from the price discovery process.

In summary, it is self-evident that any load which is responsive to price has an impact on the price discovery process. A Rules obligation requiring operators and agents of price sensitive non-scheduled load to inform the market of their intentions would improve price discovery and ensure an overall more efficient utilisation of resources for the NEM.

The Consultation Paper highlights the possibility of addressing the problems raised in the Rule change through the provision of further information from loads in relation to their intentions to consume at specific spot prices. Snowy Hydro argues that further information would be ineffective in ensuring the loads would abide by their stated intentions at times when the wholesale spot price is either high or volatile. Hence it remains our view that loads that will be required to become scheduled loads as a result of the implementation of this Rule change must abide by the existing Rules obligation to act in good faith and comply with dispatch instructions which currently applies to both scheduled loads and scheduled generation.

Snowy Hydro appreciates the opportunity to respond to this Consultation Paper. Should you have any enquires to this submission contract Kevin Ly, Head of Wholesale Regulation on kevin.ly@snowyhydro.com.au or on (02) 9278 1862.

Yours sincerely,

Roger Whitby

Executive Officer, Trading

Snowy Hydro's detailed responses to the issues outlined in the consultation paper are set out below.

Question 1 - The rule change request

(a) Is the lack of participation of market loads as scheduled loads in AEMO's central dispatch process, a material issue, in relation to the price discovery process or any other aspect of the market's operation?

A lack of participation of market loads as scheduled load is a material issue for the NEM as it creates uncertainty because participation of these loads is not transparent. It is important to note that the intent of Snowy Hydro's rule change is for all loads (not just market loads) which are greater than 30MW and spot price sensitive or intend to be spot price sensitive will have an obligation to bid into central dispatch and comply with any given dispatch instructions.

Transparency of both supply and demand intentions is essential for efficient price discovery. This is a key finding from the AEMC's current consultation process on the Good Faith Bidding rule change.

Loads which are responsive to spot price or intend to be responsive to spot price have no obligation to be classified as schedule load. Non schedule market loads switch consumption without notifying other Market Participants of their intentions to consume which consequentially impacts on the spot market. This creates unnecessary uncertainty and risks for all Registered Participants.

If scheduled generation must act in good faith to ensure the integrity of the price setting process and aid AEMO in maintaining a secure and reliable power system, price sensitive loads must have similar obligations.

(b) Has the problem related to lack of participation by market loads as scheduled loads in AEMO's central dispatch process been correctly identified in the rule change request?

The problems related to the lack of loads being registered as scheduled loads has been correctly identified in the Rule change request. These problems are:

- Inaccurate prices leads to inefficient generation and consumption, inaccurate reserve forecasting, and issues for AEMO in efficiently administering central dispatch; and
- Sub optimal price discovery for all Participants and consumers in the NEM.

(d) Does Snowy's proposed rule address the issue identified in the rule change request?

Snowy Hydro's proposed rule would address the problems identified with non-scheduled load. The proposed Rule will impose a reasonable cost on previously non-schedule load. This cost would be outweighed by the benefits of increased certainty, increased accuracy, and more transparency for all Participants in the NEM.

(e) If no, are there other ways to address the issue identified in the rule change request?

There may be other methods like pre-determined patterns of consumption which are submitted by non-scheduled loads to AEMO. However the issue with such as approach is the enforceability and recourse for deviating from these intentions.

Question 2 – Market Impacts

(a) What would be the impacts, positive or negative, on the behaviour of market loads if they were required to become scheduled?

Loads would have obligations which are the same as scheduled generators. The behaviour of market loads would be difficult to predict and would be highly dependent on the value derived by direct participation in the spot market as market loads. If the cost of becoming a schedule load outweighs the value derived by the market load then it may be plausible that the market load would look to Retailers to supply their energy. The Retailer as the agent for the load would then have the obligation to inform the market of the consumption intentions of the load.

(b) What would be the impacts, positive or negative, on the behaviour of market participants, such as scheduled, semi-scheduled and non-scheduled generators, if market loads were required to become scheduled?

The impacts on other Market Participants would be positive due to better and more accurate prices leading to more informed decision making. The behaviour of Market Participants should become more predictable as variations in demand forecasts caused by the participation of non-scheduled loads reduces and as a result the accuracy of pre-dispatch demand and prices improves.

(c) What would be the impacts, positive or negative, on the price signals in the pre-dispatch and dispatch periods and the half hour trading intervals if market loads were required to become scheduled?

The impact of price signals would be positive. More accurate pre-dispatch prices would mean more confidence in these price schedules.

Snowy Hydro provided an example of the impact of non schedule load on pre-dispatch prices. For ease of reference this example is replicated in this submission.

On the 2 July 2012 there was a non-scheduled load reduction of approximately 70MW which had the effect of materially changing pre-dispatch prices.

The first graph shows the information in the market at 12:40 and the second indicates the drop in 5min Pre-dispatch prices after the load shedding.

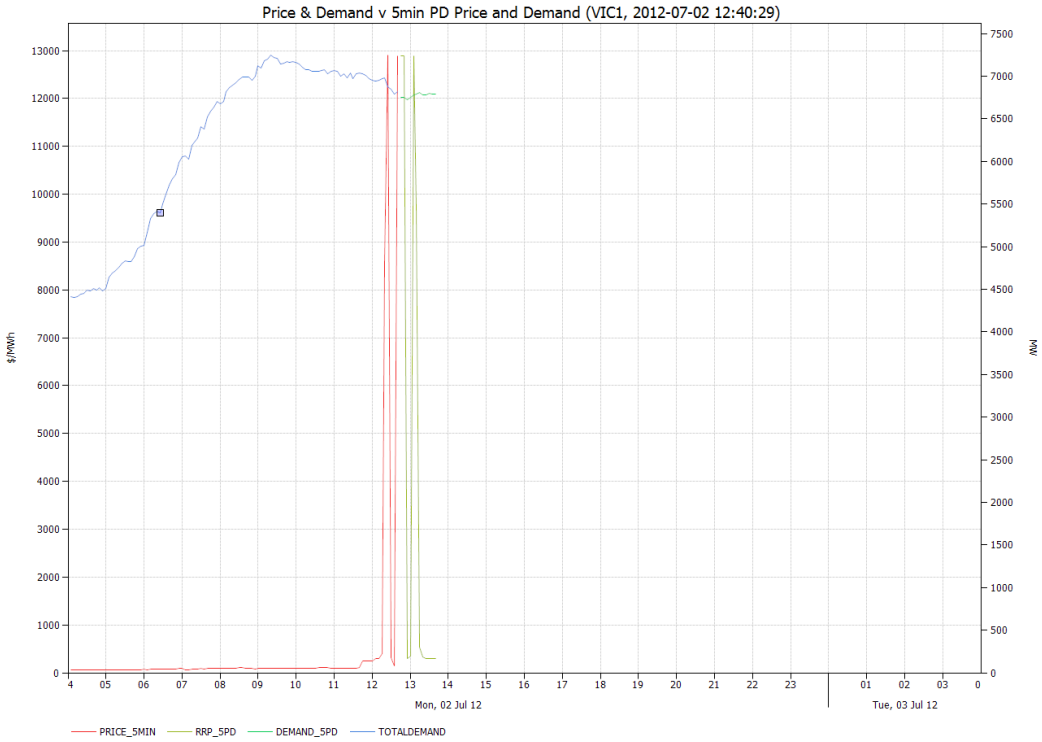

Figure 2 – Pre-dispatch prices prior to the effect of the non-scheduled load

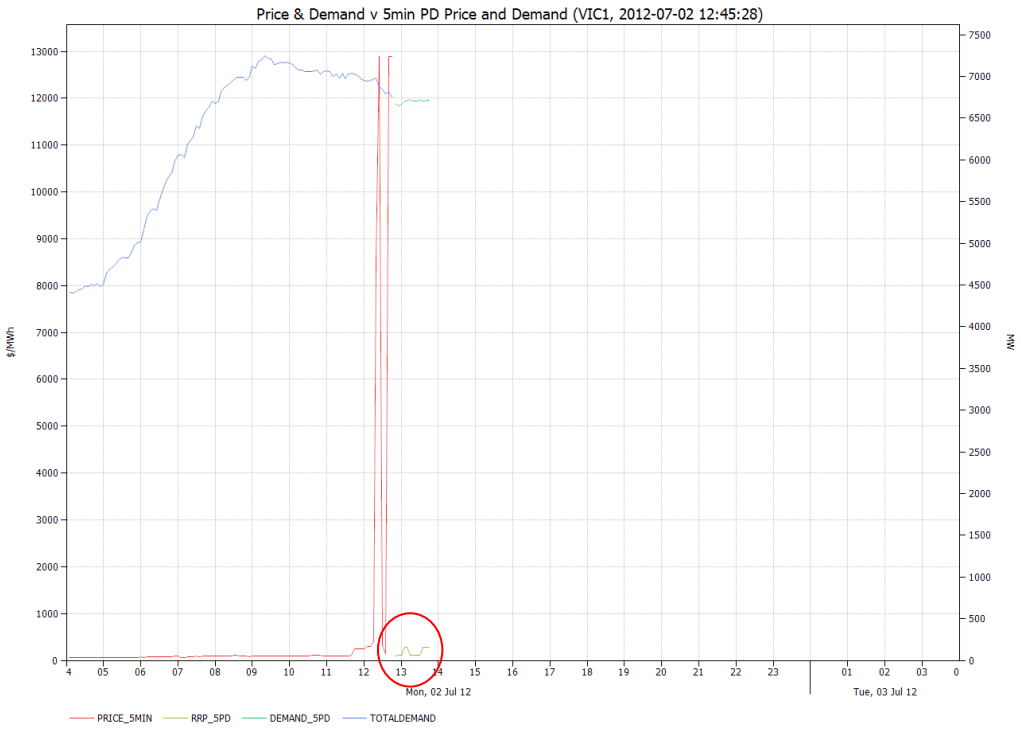

Figure 3 – Pre-dispatch prices after the effect of the non-scheduled load

From comparing Figures 2 and 3, there is a material difference in pre-dispatch prices as illustrated by the difference in pre-dispatch prices prior to and after the effect of the non-scheduled load.

The situation in this illustrative example makes it extremely difficult for Market Participants to manage their risk. Generators had inaccurate price signals to modify their existing offers to

accommodate for the increased demand load or to self-commit additional generation. Market Loads would have had limited opportunity to reconfigure their consumption pattern in anticipation of the increase demand.

If peaking and fast start generators self-committed to cover the high spot prices they would have done so at the risk that Spot prices would fall due to an unforecast demand response. The fast start generator in this situation would not have been able to recover its start-up costs associated with the self-commitment process. Over time any Market Participant which is unable to recover its costs would eventually exit the market and as a consequence the NEM would be less competitive.

(d) What are the impacts, positive or negative, in relation to the procurement and use of FCAS by AEMO as a result of market loads being non-scheduled?

The required amount of FCAS to keep the market opening within its secure operating state should reduce because supply/demand would be better balanced. This should lead to a reduction in FCAS costs.

Question 3 – Obligations on market loads

(a) Is 30 MW or greater, the appropriate threshold for mandatory participation of market loads as scheduled loads in AEMO's central dispatch process?

30 MW or greater is the appropriate threshold for mandatory participation of loads as scheduled loads in AEMO's central dispatch process. This would make the obligation symmetric to those imposed on generators.

(d) Should a market load only be required to participate in the central dispatch process if it is, or intends to be, responsive to the electricity spot price?

Yes, because non price sensitive load will just consume no matter what the price. Proposing an obligation on non price sensitive load to forecast their own load is no different to AEMO centrally forecasting this load.

Snowy Hydro believes AEMO has done a reasonable job forecasting non price sensitive load. It would be inefficient for this function to be replicated for all non price sensitive loads who may not have the same level of resources to perform this function compared to the resources deployed at AEMO.

(e) If the obligation to participate in AEMO's central dispatch process as scheduled loads, should only apply to price responsive market loads, how should it is be determined if a market load is, or intends to be, responsive to the electricity spot price?

Snowy Hydro suggests using historical behaviour to determine if a load is responsive to the electricity spot price. AEMO may have a valuable role to play in identifying relevant price responsive market loads through available historical market data associated with transmission connection and bulk supply point forecasts.

For existing loads which historically have not be responsive to spot price but now intend to be, responsive to the electricity spot price we suggest AEMO could be responsible for surveying these customers.

Question 4 – Incentives and obligations

(a) Do any incentives currently exist for market loads to become scheduled loads?

It is clear loads currently have a free option to either be scheduled or non-scheduled. However, this option is not "free". It imposes inefficiency costs to all Participants by reducing the effectiveness of the price discovery process.

We believe this to be an example of tragedy of commons. It is perceived that a market load that changes from non-scheduled to scheduled does so for the benefit of other Participants in the NEM but at an internal expense to its business. However a mandatory requirement for all loads that are over 30MW and price sensitive would provide the greatest benefit to all Participants and remove the perception of cost subsidisation between similar classes of Market Participants. In short, Snowy Hydro believes there are incentives for market loads to become scheduled because the obligation may, paradoxically, assist and benefit this group of participants most affected by volatile spot prices.

(b) If no, could incentives be created in the market to encourage market loads to participate in the central dispatch process as scheduled loads without creating a mandatory obligation on market loads to become scheduled?

If this question is referring to the "voluntary" Demand Response Mechanism (DRM) we believe there would be material distortions created by the DRM where there may be private benefits to a small group for large consumers at the expense to a much larger group of small consumers.

The incentives from the DRM would have an adverse and distortionary effect on the efficiency of the NEM which Snowy Hydro will outline in our submission to the DRM consultation paper.

(c) If a mandatory obligation is created requiring market loads to become scheduled, how may this impact the behaviour of market loads in the electricity spot market?

More accurate prices would be better and more efficient for consumers. If the Load which is responsive to Spot price ceases to be a market load to by-pass its obligation to become a schedule load and instead uses an Agent such as a Retailer (who is a Market Customer) to participate in the Spot market, the intent of this Rule change is that the Agent/Retailer would then have the obligation to bid the price intentions of the market load to which they now have a contractual arrangement with and effectively control.

In the Demand Response Mechanism rule change consultation, reference is made for a new category of Market Participant called a Demand Response Aggregator (DRA). Looking forward if the DRA category is available and results in a DRA achieving aggregated demand side response from aggregating multiple end users (ie. hundreds or thousands of residential loads), the impact on NEM price discovery process would be similar to a large price responsive load at a single connection point. Hence, consideration must be given to oblige the DRA to inform the market as to their intention to

consume at different Spot prices. We have suggested a threshold of 30MW is appropriate for a single connection point, however for a DRA the threshold for bidding and honouring their intentions must be a lot lower to reflect the fact that a DRA may be able to abdicate this requirement by aggregating sufficient number of loads to be just below this threshold.

Question 5 – Provision of information

(a) Is it possible to address the issues raised by Snowy in its rule change request, through the provision of further information from market loads in relation to their intentions to increase or decrease their consumption at specific spot prices?

There may be other methods like pre-determined patterns of consumption which are submitted by non scheduled loads to AEMO. However the issued with such as approach is the enforceability and recourse for deviating from these intentions. Snowy Hydro is open to other approaches to inform the market but these alternative approaches must be enforceable and have similar obligations to those imposed to scheduled generation.

(c) If additional information were to be provided, what mechanisms or incentives could be used to ensure that the information provided and updated by market loads reflects the market loads true intentions relative to its consumption under various spot prices?

Snowy Hydro suggests if the AEMC wants to go down this path then the Market load must be subjected to Good Faith provisions where it must have genuine intentions to match their stated consumption at different Spot prices. Additionally, the Market Load must have similar obligations for scheduled participants under Rules clause 4.9.8(a) to use reasonable endeavours to follow dispatch instructions?

Question 6 – Implications on derivatives market

(a) What are the costs and/or benefits to the derivatives markets (both exchange traded and over-the-counter) of market loads becoming scheduled?

The benefits to the derivative markets from loads becoming scheduled would be more accurate forecast pre-dispatch and dispatch prices which better match fundamental supply and demand and hence this market information would better inform all Market Participants by and facilitate more efficient risk management through the derivative markets.

In short a more efficient price discovery in the physical/spot market would lead to more efficient derivative markets.

Question 7 – Technical requirements

We suggest a new class of Market Participant for scheduled load is not required. The dispatch bid structure for a scheduled load consists of ten (10) price bands. This would provide sufficient

granularity for loads to profile their consumption pattern with reference to the price at which they are willing to consume electricity.

The issue of the minimum communication and/or telemetry requirements needed by market loads to participate in the central dispatch process should be determined by AEMO as the Market Operator in consultation with Market Participants.

Question 8 – Costs and Benefits

The rule change if implemented will have the effect of resolving a number of inefficiencies by requiring the demand side to reveal its intentions. It is inherently difficult to quantify the impact of non-scheduled load on the efficiency of the price setting process, AEMO's functions to maintain a reliable and secure power system, and the incorrect pricing of financial contracts. However, the qualitative assessment of how the Rule change would advance the NEO suggests there would be significant net benefits by aiding the efficient price discovery process.

The expected costs associated with implementing this proposal which will require loads greater than 30MW to bid their intentions into central dispatch are:

- Setting up communication channels to send telemetered (4 second) consumption information to AEMO and receive dispatch targets; and
- Setting up a trading platform to allow the submitting of bids.

Entities likely to be affected by the rule change are:

- Generators would be positively affected with greater certainty in forecast prices in pre-dispatch. This would aid in the allocation of scarce resources;
- Financial intermediaries – would be better able to price contracts with more accurate forecasts of fundamental supply and demand;
- Consumers would be beneficiaries of the rule change as better price transparency from other demand Participants would help inform their own consumption decisions;
- AEMO remains unaffected. AEMO already has the central dispatch process which can accommodate bids from price sensitive loads; and
- AER would be positively affected as the rule change would remove administration cost in investigating price spikes or price floors caused by sudden changes in non-scheduled demand.