23 February 2010

Dr Neville Henderson

Chairman

Reliability Panel

Australian Energy Market Commission

PO Box A4229

SYDNEY SOUTH NSW 1235

AEMC reference: REL 0034

Dear Neville

Re | Reliability Standard and Settings Review

Thank you for the opportunity to comment on the draft report to the Reliability Standard and Settings Review.

1.   General Comments

AEMO agrees with the Panel that the Market Price Cap (MPC) and Cumulative Price Threshold (CPT) are the key settings in allowing the market to deliver the reliability standard. We further agree that the level of the MPC needs to be high enough to deliver the investment needed for reliability but not higher than necessary; viz;

> "The level of the MPC and the market floor price are crucial because they provide key signals for supply and demand-side investment and usage. For example, if the MPC is set too high, Market Customers (retailers or consumers that are directly exposed to the spot price) and generators can be exposed to very large financial risks. However, if set too low, there may be insufficient incentives to invest in new generation capacity and demand-side response to meet the Reliability Standard.[1]"

AEMO suggests that the Panel should, in particular, seek to recommend market settings that encourage the level of investment required to achieve the reliability standard without intervention.

In seeking to achieve the dual objectives, it is important that the modelling and calculation of the MPC uses the most up to date methodologies currently available. As the Reliability Standard is delivered in operations through the Minimum Reserve Levels, it is also important

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[1] Draft report, pg 5

that the modelling used is consistent with that used to determine the minimum reserve levels to maximise the likelihood that there is consistency.

Whilst ROAM analysis points to a substantially higher MPC, AEMO is also aware that a large increase will increase the financial risks to be managed by participants in the market and their prudential obligations. Therefore the modelling undertaken should be as rigorous as possible, and, if increases are required to ensure the reliability standard, the increase should be introduced with a view to minimising disruption to commercial participants.

2. The Reliability Standard

AEMO concurs with the draft conclusion to retain the following features of the standard:

- The Unserved Energy (USE) form;

- To retain the standard as a target for de novo forecasting, without making adjustments for recent events;

- Retaining the exclusions of system security interruption, industrial action and 'acts of God'.

In relation to the last dot point, we welcome the Panel's recalculation of historical USE[2] exclusive of industrial action which shows that the NEM has remained on average well within the target in all regions to date.

In relation to the level of the USE target, the objective should be identifying the optimum trade-off for the customer, i.e. where the marginal increase in cost to supply additional reliability equals the value of customer reliability. We note that the ROAM work appears to indirectly support the current standards of 0.002% (see box).

> The ROAM analysis included analysis of relaxing the USE standard by 0.001% to 0.003%. ROAM advised the Panel that such a relaxation in the standard could reduce the capacity required from peaking plant by approximately 750MW, equating to an annualised saving of around $75m across the NEM[3]. The NEM's energy demand for 2012/13 is forecast at 211TWh[4], for which 0.001% is 2.11GWh. The Victorian 2009 average Value of Customer Reliability was estimated at $55,000/MWh[5]. Applying this value nationally, the cost of customer interruption of relaxing the standard by that amount equates to an expected $116m per annum. This would indicate that the standard should not be relaxed.

As discussed in the report, the cost of adjusting the standard is not linear, so the above result does not imply that the standard should be tightened. Indeed the general similarity of the cost and benefit may give the Panel some confidence that the current target is near the economic optimum.

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[2] Draft report Pg 12
[3] Draft Report, pg 17
[4] AEMO 2009 Electricity Statement of Opportunities
[5] http://aemogas.com.au/index.php?action=filemanager&folder_id=934

Thus AEMO concurs that there is no compelling case to change the standard. Further, the Panel should consider the approach used by ROAM as a useful approach to identifying the economically optimal standard in future studies.

3. Modelling of behaviour of extreme peaking generator

AEMO concurs with the general approach used by ROAM to model the introduction of sufficient new-entrant gas turbines to achieve the reliability standards and whether the returns they achieve remain sufficient to justify their capital cost.

The ROAM analysis has gone to some effort to create a realistic bidding structure for incumbent generators, deriving them from historical bidding patterns. This is a valid approach in the short to medium term if it is considered likely that parties will not change their position in the merit order, their business strategies or bidding behaviour. Where significant changes and new plant are expected a Nash-Cournot dynamic bidding system is potentially a better modelling choice. A major change in the MPC would be expected to change some bidding behaviour in a dynamic bidding system.

AEMO understands that the approach taken in the modelling undertaken focussed on the incremental long run costs of the extreme peaking generator assuming it only ran in the hours where there would otherwise have been unserved energy; that is, the hypothetical extreme peaking generator was modelled as bidding at the MPC, so that it would only be dispatched after all existing plant, including those bidding well in excess of their short-run marginal costs (SRMC). It was confirmed at the forum that the return achieved by the hypothetical new generator was not sensitive to the modelled bidding strategies of incumbent generators.

By inspection of NEM outcomes to date, this result appears inconsistent with the bidding strategies employed by most new-entrant peaking generators. It would be more realistic for the new-entrant peaking generator to be modelled as bidding at somewhere closer to its own SRMC, which we would expect to substantially improve its market returns in this modelling[6]. By focussing on the incremental cost of the generator rather than the available returns of the market, the MPC necessary to deliver the reliability standard may be overstated.

We expect it would be straightforward to re-run the model with the peaking generator bidding in that manner, with all other bids held constant, reproducing its expected revenue directly from the model.

4. Selection of Demand Trace

The traditional approach used by NEMMCO and its consultants was to derive expected USE from a 10% POE demand trace and then again using a 50% POE demand trace and then weighting these at 30% and 70% respectively.

AEMO is presently undertaking its periodic recalculation of Minimum Reserve Levels with results expected to be published by mid 2010. That analysis is using a 5% POE demand trace with appropriate weightings which is giving greater insight into the level of unserved energy possible under extreme demand conditions. As such, it provides a more accurate

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[6] A peaking generator bidding close to its own SRMC need not be characterised as a "shoulder plant" (Pg 17) deriving its income outside the spot market. The optimal bidding strategy for small peaking generators is often to bid close to its own SRMC, earning revenue both during periods of supply shortfall and during periods of high marginal price setting by its larger competitors.

analysis of the likely long term average USE. We suggest the Reliability Panel consider whether this approach can be incorporated into the current review.

5. Consistency between Gas and Electricity Market Settings

The AEMC Review into Energy Market Frameworks in light of Climate Change Policy draft report of October 2009 indicated an intention that this review of electricity MPC should take into account consistency of price caps with the various gas markets.

> "Existing and future reviews of the settings in the electricity or gas markets should take into account the likely impacts on the other market, as this is likely to be a relevant issue for the AEMC when considering the outcomes of the reviews when presented as Rule change proposals.
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> Accordingly, in the short term, we propose to write to the AEMC Reliability Panel and AEMO to explain our view that the interactions between the markets is likely to be a relevant consideration when determining market settings, and to ask the Panel and AEMO to factor such considerations into their review processes. We will ask the AEMC Reliability Panel to consult with AEMO on its current review of electricity market settings, and request AEMO's cooperation, to ensure that the Panel's considerations are fully informed of gas market operational issues. AEMO's membership of the AEMC Reliability Panel should help to facilitate this process."[7]

The draft report has not discussed any gas market impacts. There may be insufficient time remaining for the Panel to investigate these matters thoroughly, but we encourage the Panel to make at least a qualitative assessment of what implications its electricity recommendations may have for the gas markets. AEMO is undertaking a project during 2010 to prepare a method by which it will take into account electricity effects in future reviews of gas market settings. AEMO is willing to work with the Panel in preparing a more thorough approach towards achieving gas/electricity consistency to be used in future reviews of gas as well as electricity market settings.

If you wish to discuss any issues in this submission further, please contact Ben Skinner on (03) 9648 8769.

Yours sincerely

David Swift

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Australian Energy Market Operator Ltd

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[7] Pg 103, Final Report, AEMC Review into the Energy Frameworks in light of Climate Change Policy