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By email: mark.miller@aemo.com.au

Dear Mark,

NGF feedback on demand forecasting requirements

The NGF appreciated your prompt response and detailed verbal report on AEMO demand forecasting initiatives at its last Market Working Group meeting (4th March 2010).

AEMO demand forecasting initiatives

We have been aware for some time that AEMO has been working on longer term initiatives to enhance the quality of its demand forecasting, including increased sub-regional forecasting capabilities. This work is considered important by the NGF as improved forecasts should improve market forecast information enhancing the efficiency of decisions by both Market Participants and AEMO in future NEM operations.

While these longer term initiatives are important, we are also keen to see improvements to demand forecasting in the period before the new IT based processes come into effect (which we understand is forecast to occur toward the end of 2010). To this end, we are strongly supportive of the initiative you highlighted at our recent meeting related to increasing the focus on demand forecasting for AEMO's shift managers and staff. Our hope is that this increased emphasis should ensure timely correction of forecast anomalies to the benefit of the market.

Participant uses of AEMO demand forecasting (and derived market forecasts)

At our Market Working Group meeting, we agreed to provide you with information on how forecasts are used by participants. A range of uses are set out below, which in addition to helping you target enhancement work, may be useful in constructing relevant measures for AEMO to monitor and manage its demand forecasting processes. This analysis focuses on the D+1 forecast (i.e. the forecast for tomorrow that is made today).

Gas Generator Fuel Management

Typically gas generator operators need to order fuel in the morning of the day prior to the relevant gas day. Timing varies between producers, pipelines and jurisdictions; however a typical scenario may see gas ordered prior to 11AM on the day prior to the relevant gas day (ie. D-1), with the potential for some form of adjustment just prior to the commencement of the relevant gas day (D).

Ideally, a NEM pre-dispatch based on an accurate demand forecast would provide some information on how much production could be expected based on market offers and demand forecast at the time. We note that NEM pre-dispatch is currently run at about midday on D-1, and on this basis, would not be available to provide guidance on generation volumes. We are not proposing a change to the NEM pre-dispatch timing at this stage (although greater co-ordination of gas and electricity market timing may be worth considering) but, given there are opportunities to adjust gas orders later in the D-1 gas day and just prior to the gas day, accurate forecasting during the afternoon of D-1 can assist participants in managing their gas supply arrangements.

Generator unit commitment

Some mid merit generators can take 12 hours or more to start under some conditions. For this reason accurate demand and generation forecasts in the D-1 timeframe can be helpful in optimising plant commitment decisions for generators.

Demand side management – commitment decisions

Similarly, some demand side resources may require commitment decisions up to 24 hours prior to them becoming active. More accurate demand and price forecasts can make these commitment decisions more effective as well.

Financial contracts indexed to AEMO demand forecast

Some participants have used AEMO day ahead demand forecasts as an independent forecast to set contract profiles for derivative contracts. Clearly in such situations efficiency of outcomes for participants in both the generation and retail sector would improve if AEMO is able to improve its forecast performance in this area. To the extent that participant confidence in the AEMO forecast process can be enhanced and maintained its use as an independent index may further develop and deliver benefits to the market.

Network outage management and possible recall

Some network outages may be able to be recalled if system security conditions require. More realistic and accurate demand and dispatch forecasts may allow earlier identification of security or reliability problems associated with any planned network outages – and provide ample time for their recall.

This is one area that will clearly benefit from improved sub-regional demand forecasts – something that will be delivered as part of the existing AEMO program of demand forecast improvements. However we believe that improvements in this area can be achieved with greater emphasis on D-1 aggregate regional forecast accuracy in the short term as well.

On the day forecasts

Some NGF members have noted that forecast adjustments on the day can be problematic. This is particularly the case when a demand is seen to be tracking to a different trajectory than forecast (usually in the morning load rise), and rather than re-forecasting the daily load shape, the existing like day forecast is simply vertically moved to ensure the forecast at least matches the current demand at the time of the reforecast. In these situations a more thoughtful re-profiling of the shape may be preferable and more consistent with market expectations (although we accept this would still be somewhat arbitrary).

AEMO demand forecasting monitoring

We are not clear how AEMO monitors its demand forecasting. In particular, we are not sure if the current monitoring processes are able to flag significant individual discrepancies or whether they are set up to review average performances over weeks or months.

Given the importance of accurate demand forecasts for participants, we would welcome a discussion with AEMO on its existing monitoring processes. We would be happy then to discuss and develop with AEMO possible monitoring options that may assist in identifying below average performance incidents on “unusual” and challenging forecasting days.

The NGF is pleased to be able to contribute on this important matter, and appreciates AEMO efforts to improve its demand forecasts and ensure it is meeting the needs of market participants. We hope the information provided is of assistance in clarifying how participants may use AEMO’s demand forecasts.

Yours sincerely



Malcolm Roberts
Executive Director