Major Energy Users Inc.

19 June 2019

Australian Energy Regulator
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Melbourne Vic 3001

Sent by email: RRO@aer.gov.au

Retailer Reliability Obligation
Draft Interim Forecasting Best Practice Guideline
Draft Interim Qualifying Contracts and Firmness Guideline

Major Energy Users Inc (MEU) is pleased for the opportunity to provide its views on the two draft interim guidelines prepared by the Australian Energy Regulator (AER) which underpin the Retailer Reliability Obligation (RRO) which is about to commence, viz:

- draft interim forecasting best practice guideline
- draft interim qualifying contracts and firmness guideline

The MEU was established by very large energy using firms to represent their interests in the energy markets. As most of the members are located regionally and are the largest employers in these regions, the MEU is required by its members to ensure that its views also accommodate the needs of their suppliers and employees in those regional areas. It is on this basis the MEU and its regional affiliates have been advocating in the interests of energy consumer for over 20 years and it has a high recognition as providing informed comment on energy issues from a consumer viewpoint with various regulators (ACCC, AEMO, AEMC, AER and regional regulators) and with governments.

The MEU stresses that the views expressed by the MEU in this response are based on looking at the issues from the perspective of consumers of electricity but it has not attempted to provide significant analysis on how the proposed changes might impact generators, network service providers, retailers and other stakeholders.

Generally, the MEU supports the draft interim Forecasting Best Practice guideline and the draft interim Qualifying Contracts and Firmness guideline but the following observations qualify this support.

1. The Best Practice Forecasting Guideline

The MEU notes that it was a member of the AEMO led Forecasting Reference Group which was established to assist AEMO in developing its approach for forecasting in the NEM, including the application of the AEMO forecasts for identifying any forecast RRO gap. During meetings of the reference Group, the MEU noted that some other members (especially the Queensland Electricity Users Network, the Energy Users Association of Australia and ERM Power) all expressed concerns about the extent of conservatism inherent in the AEMO approach. The MEU supports the views expressed by these other organisations of their concerns about the forecasting guideline.

The MEU concerns about this guideline are as follows:

Conservatism in AEMO forecasts

The MEU recognises the importance of accurate forecasting for the National Electricity Market (NEM) so that stakeholders have the ability to make informed choices about the way they access and use electricity.

The MEU considers that the most publicly available forecasting for the NEM is provided by AEMO and that to date AEMO has used a best endeavours approach in order to provide an accurate as possible forecast of future movements in the NEM. Despite these best endeavours, the MEU notes that the forecasts provided by AEMO of peak demand and supply to meet these peak demands has consistently resulted in peak demand forecasts being overstated (ie being too conservative) and this has been noted by many parties including by the AEMC in its Reliability Frameworks Review. This conservatism has been observed in most of AEMO demand forecasts (especially 50% PoE and 10% PoE) in its annual statement of opportunities and, on a more frequent basis, in its MTPASA.

In the past, this over-forecasting has resulted in over investment in network assets, and the MEU has a deep concern that this will similarly affect the assessment of the “gap” needed for implementation of the RRO.

What is also now being introduced, is a requirement that AEMO not only forecast with accuracy the peak demand that might occur in any one year, but also to provide a much closer assessment as to the week in the year this peak might occur, the day in the week and the time of day it will occur. Coupled with this is a need to for an accurate forecast as to what generation will be available at these same times in order for AEMO to define if there is a gap between demand and supply but also when this gap will occur with quite precise frequency and timeframes. The MEU recognises that this is a challenging task but one where it is essential that the forecasts do not include high levels of conservatism. The MEU has already expressed its concern to AEMO

regarding its concerns about conservatism in its proposed approach to forecasting for the "reliability gap" [1].

While the approaches used by AEMO in its forecasting tends to err on the high side of correct for demand and on the low side for supply (and therefore exhibit a degree of conservatism), the introduction of financial penalties that will become applicable under the RRO, requires the forecasting to be much closer to actual and exhibit much less conservatism to prevent retailers (and opt-in end users) either investing in unnecessary infrastructure or having significant financial exposure.

This need for more accurate forecasting is now critical as conservatism in the forecasts will result in consumers paying more for their electricity either from having to pay for the additional but unnecessary infrastructure provided to address forecast shortfalls in supply or from retailers having to add risk premiums to manage the increased financial exposure to penalties inherent in the RRO.

The MEU points out that by far the most losses of supply seen by end users come from failures in the distribution systems rather than from the wholesale market. This then raises the point that would an increase in the risk of loss of supply from the wholesale market greatly impact the overall loss of supply seen by end users from all sources.

The question then has to be asked whether consumers would be better served by the forecasts having no conservatism embedded in them (with an accompanying increased risk of under forecasting and perhaps having some occasional loss of supply from the wholesale market) better meet the National Electricity Objective than conservative forecasts which result in unnecessary infrastructure being built or risk premiums being added to retailer margins. The MEU considers that addressing this dichotomy must be a core element of the guideline.

Aspects of interrelation

The MEU is aware that to a large extent, peak demand and ambient temperature are linked and provide a clear driver of demand. Equally, the MEU is also aware that this is not always the case. While this sometime lack of coincidence adds an additional area of uncertainty, the MEU considers that the guideline needs to require analysis of this interrelationship.

In particular, an issue that was discussed in the Forecasting Reference Group meetings was the aspect of "saturation" where despite increases in ambient temperature the demand does not further increase as there is no further airconditioning equipment that can be started resulting in a flattening of demand.

[1] In this regard, the MEU attaches a letter it sent AEMO in this issue expressing its concerns about the excessive conservatism in the AEMO procedures for assessing the RRO gap and the inconsistencies evident in the proposed AEMO process

This aspect is further linked to the finite capacity of some elements of the distribution networks in that there are parts of the distribution networks particularly (but also parts of transmission network) where load shedding is implemented by others than AEMO because of network constraints. While the MEU is aware that AEMO does include limitations in the transmission networks when assessing forecast demands, it does not address the limitations in the distribution networks to the same extent.

The MEU considers that the guideline must require AEMO to include the potential that further increases in demand might be limited by actions other than from the wholesale market and that load shedding might be implemented by parties other than AEMO for reasons not connected to the wholesale market.

Reviews of performance are essential

An inherent element of forecasting is to compare the forecast with “actual” and the MEU is aware that AEMO does carry out reviews of its historical forecasting performance. However, with the introduction of the RRO and the forecasting of peak demands, availability of supply and most importantly the timing of these occurrences to match the week, day and time that gaps are forecast, there needs to be implemented a formal requirement that there be a historical review of the accuracy of the gaps identified at T-3 and T-1, along with monthly peak demands recorded each month at 10% PoE and 50% PoE (and even 90% PoE) in order to provide a level of confidence about this element of forecasting.

In a similar vein, the MEU considers that there needs to be a much closer review of generator availability, particularly at critical times, in order to compare forecasts with actual availabilities.

As AEMO is forecasting “gaps” in terms of week in the years, days and time of day, a review of the forecasts compared to the actual outcomes will be very informative with regard to the degree of conservatism that AEMO builds into its forecasts.

The MEU considers that these reviews should be started immediately and be carried out regardless of whether a “gap” was forecast or not. Such reviews will add more credibility (or not) to all of the future AEMO forecasts of the “gaps”.

The forecasting processes

The MEU has had a representative on the AEMO Forecasting Reference Group from its inception and the MEU appreciates that AEMO has implemented such a group as an advisory body. The MEU considers that the continuation of this group (or some similar group) should be a requirement of the guideline to ensure that there is informed advice from stakeholders into the AEMO approach and on what its forecasts in each

year are incorporating, and how closely its forecasting is matching the actual outcomes.

The other aspect of the AEMO forecasting is that there are still a number of elements of the AEMO processes which are not sufficiently transparent. Not only would the retention of a reference group provide some guidance to AEMO in the enhancement of its processes, it would also provide advice where the AEMO processes are not clear or where assumption are being made which might not deliver accurate outcomes.

2. The qualifying contract and firmness guideline

The MEU aspect of concern with regard to this guideline lies more in the respective tools used by AEMO in generating its forecast "gap" and those used by the AER in assessing who is liable for the actual costs where AEMO has to implement the RERT to ensure supply to all users continues.

The draft guideline outlines with clarity how the AER will address "bespoke" firmness contracts. It is essential that the AEMO development of the expected supply is calculated in a similar manner to ensure that there is no significant difference between the way AEMO develops its forecast reflecting the various degrees of firmness and the AER acceptance of retailer calculations underpinning the firmness of their contracts.

In this regard, on 29 May 2019 in an email, the MEU raised the following concern with the AEMO forecasting team:

> "…the reliability of the various potential sources of supply need[s] to be assessed also on a temporal basis [and this concern was rased] … with the ESB when it was developing the RRO rules … [The ESB response was] that the process needed to be flexible and follow the processes used by retailers to provide firm supply when they develop their contracts for supply. But the retailers always knew that they could source from the pool as a back up to their firm contracts of supply with just the risk of the spot price for any make up, but now they still have this but also the added risks of the RRO and {the MEU] experience is that when there large amounts of money involved, there will be arguments about who is more correct.
>
> We need to have some degree of agreement about the issue of reliability/firmness of supply or we can end up in a real squabble with various players, potentially with bizarre outcomes, because there will be large amounts of money at risk under the RRO."

In its response on 29 May 19 AEMO stated that it will:

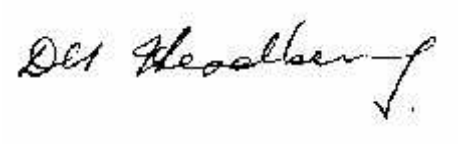
> "…model the various intermittent and reliability performance of different technologies in [its] modelling and [will attempt] to be clear on the assumption [it makes] and the

model determines the USE impacts of the various interactions (including transmission constraints)."

While the MEU recognises that the AEMO approach is not unreasonable, it is not clear that this will be replicated by the retailers in their submissions to the AER when demonstrating the firmness of their supply contracts and what the AER might be required to accept. We see that the difference in approach might result in inconsistencies and this issue needs to be addressed in the guideline.

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary. If so, please contact the undersigned at davidheadberry@bigpond.com or (03) 5962 3225

Yours faithfully



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22 May 2019

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Reliability Forecasting Methodology
used to establish the
Retailer Reliability Obligation

Major Energy Users Inc (MEU) is pleased to provide its thoughts in response to the Issues Paper released to discuss the Reliability Forecasting methodology to be used to establish the Retailer Reliability Obligation (RRO).

The MEU was established by very large energy using firms to represent their interests in the energy markets. As most of the members are located regionally and are the largest employers in these regions, the MEU is required by its members to ensure that its views also accommodate the needs of their suppliers and employees in those regional areas. It is on this basis the MEU and its regional affiliates have been advocating in the interests of energy consumers for over 20 years and it has a high recognition as providing informed comment on energy issues from a consumer viewpoint with various regulators (GMRG, ACCC, AEMO, AEMC, AER and regional regulators) and with governments.

The MEU is a member of the AEMO Forecasting Reference Group and as such has a reasonable understanding of the issues facing AEMO in the establishment of a methodology to identify the T-3 and T-1 reliability gaps that will be used to assist in the incentivisation for investment in new “reliable” generation assets and increase demand side participation in the electricity market and then for allocation of the costs inherent in providing services to ensure that reliability in each region meets the Reliability Standard.

It is essential to note that currently, consumers are relatively accepting of their current levels of reliability of their electricity supplies, but are very outspoken that the prices they have to pay for electricity are excessive. It is also important to note that

the unreliability seen in the market is primarily driven from within the distribution networks, and that is where a step increase in reliability would be best provided, rather than in the wholesale market. However, the MEU does note that the wholesale market is required to meet the Reliability Standard of unserved energy (USE) in each region not exceeding 0.002% on average each year. The MEU recognises that AEMO is required to use the current Reliability Standard as the basis of the RRO calculation.

However, because the main causes of outages occur other than in the wholesale market, the MEU considers that AEMO should not introduce a model for identifying any reliability gap that has excessive conservatism built into it – if anything, to avoid increased costs on consumers, AEMO should focus on minimising any conservatism in identifying the reliability gap, as this will result in the overall lowest cost to consumers when assessing the minimal improvement in reliability of delivered electricity that might result from this conservatism.

As an over-arching observation, the MEU considers that AEMO has developed an approach to identifying the reliability gap that is both too complex and is too conservative.

The MEU considers that the AEMO approach is too complex and that the approach developed by ERM Power to identify the reliability gap (and explained at the 9 May forecasting workshop and more comprehensively outlined in its response to the Issues Paper) is much less complex than the AEMO approach and much more understandable in how the reliability gap is quantified. The MEU considers that the ERM approach should be closely examined by AEMO and that AEMO implements the concept into the model that AEMO uses to calculate the reliability gap value.

The MEU notes that forecasting is not an exact science and that whatever AEMO calculates, is more likely to be wrong than right. But with the decision to impose considerable cost and very high penalties on retailers through the RRO based on AEMO forecasts, it is imperative that the AEMO forecast must be made as accurate as possible.

The MEU, along with other stakeholders, is very concerned that the AEMO approach has too much conservatism built into the various elements that are to be inputted into its model. What is even more concerning is that this conservatism is cumulative so that the final outcome is much more conservative than the conservatism used at each stage.

Excessive conservatism in the forecast can only lead to increased retailer prices offered to end users of electricity. The MEU points out that, if at T-3 a reliability gap is declared and the amount is based on excessive conservatism being used, retailers will be obliged to implement and pay for unnecessary reliability products that will have to be paid for. Effectively, conservative forecasts will ultimately increase the costs retailers will require consumers to pay. A clear example of this

conservatism is where the AEMO approach uses a different threshold for the LOLP calculation between the T-3 and T-1 such that the T-3 outcome is more conservative than the calculation at T-1 and the result will be that retailers will be obliged to procure a greater amount or potentially more expensive reliability products than would be the case at T-1, all other aspects being the same.

The MEU is both concerned at both the level of conservatism included at each stage and of the cumulative effect of these conservative assumptions and inputs. The issue of conservatism must be given much more analysis and inputs must be based on reality. The high costs and penalties that are embedded in a failure to meet the RRO will require retailers (and end users that opt in) to take action at T-3 in order to be prepared for T-1. This means that the reliability gap value identified at T-3 will have a greater impact on the costs that consumers ultimately incur will be generated at T-3 and that the T-1 reliability gap forecast will primarily drive the methodology for cost allocation purposes.

The MEU sees that the AEMO approach builds in conservatism at:

- The assessment of the forecast demand.
    - While the RRO is payable against the 50% PoE (effectively a 1 in 2 year) peak demand, the AEMO approach uses the weighted average of 10%, 50% and 90% traces. It is not clear why a weighted average of the three forecasts provides a better forecast for the reliability gap than the 50% PoE alone[2], but it does increase the potential that a higher value of the reliability gap might eventuate, especially if there is less of a differential between 90% PoE and 50% PoE forecasts than between 10% PoE and 50% PoE forecasts, which seems to have been the case in the past. This inconsistency has the potential to result in a more conservative assessment
    - AEMO proposes to use historic traces to develop the RRO and to scale up these traces to develop the durations for the reliability gap. The MEU considers that if historic traces are to be used, they should be based on actual periods of peak demand that occur in the past (eg following the AEMO process for allocating transmission charges in Victoria based on the top 10 days of peak demand). This is more likely to be representative of high demand shapes than scaling up an entire year where the peak demand in that year is a long way below what might be being forecast for the gap.
- LOLP calculation.
    - The selection of 2% and 5% as thresholds are arbitrary and appear to be very low

[2] Noting that 50% PoE is what the RRO is based on

- As noted above, there is a more conservative outcome used for T-3 than T-1 inflating the risk further out hen decisions are being made for expenditure on reliability products

- Demand side participation.

  - AEMO has decided that it will only incorporate 50% of the historically identified demand side participation impact, but provides no support for this conservative amount
  - AEMO assumes that the higher the forecast temperature, the less consumers will respond to pricing signals but in the Forecasting Reference Group discussions there was significant discussion about "saturation" effects on the ability to forecast peaks. In this regard, the MEU points to the risk that as demand increases, the risk of load shedding in the distribution networks due to rating issues, implies that temperature and peak demand lose some correlation when high ambient temperatures apply.
  - The MEU notes that there is currently a rule change process in train that seeks to increase demand side responsiveness by allowing aggregators of DSR to bid into the market. The MEU considers that this rule change will result in a considerable increase in DSR but by using historical traces, this effect is not included, understating the benefit of DSR in managing peak demand.
  - End users (residential and business) are increasingly taking control of their electricity needs because of the high cost of electricity. The MEU is not convinced that, based on the evidence provided at Forecasting Reference Group meetings, historic data is reflecting the high rate of change that are being driven by consumers to reduce their exposure to the high prices resulting in a number of additional changes (eg network tariff changes, network driven load shedding, virtual power plants based on aggregation of batteries, etc)

- Supply side participation

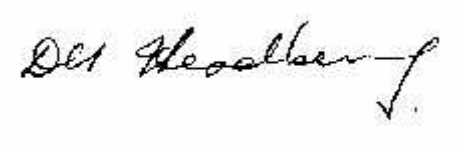
  - AEMO takes a conservative view on when new generation enters the market. For example at T-3 new entrant generation is not included but which could be in the market at T-1. This would imply that the decisions made at T-3 will be based on a conservative analysis compared to the assessment which allocates the costs
  - Generator forced outage rates based on the recent year activities do not necessarily reflect long term outage rates and therefore skew the assessment.

As can be seen, the MEU is very concerned that AEMO has developed a very conservative approach to its model for forecasting the reliability gap and that the

model is unnecessarily complex. The outturn of this is that consumers will incur unnecessary increased costs in the supplies for their electricity

The MEU is happy to discuss the issues further with you if needed or if you feel that any expansion on the above comments is necessary

Yours faithfully



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