



Australian Energy Market Commission

CONSULTATION PAPER

NATIONAL ELECTRICITY AMENDMENT (IMPROVING TRANSPARENCY AND EXTENDING DURATION OF MT PASA) RULE 2019

PROPONENT

ERM Power

18 JULY 2019

RULE

INQUIRIES

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ABOUT THE AEMC

The AEMC reports to the Council of Australian Governments (COAG) through the COAG Energy Council. We have two functions. We make and amend the national electricity, gas and energy retail rules and conduct independent reviews for the COAG Energy Council.

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1 INTRODUCTION

On 31 March 2019, ERM Power submitted two rule change requests to the Australian Energy Market Commission (AEMC or Commission) in relation to the medium-term projected assessment of system adequacy (MT PASA).¹ ERM Power has proposed changes that increase the transparency and accuracy of the MT PASA outputs as well as changes to extend the projected outlook of MT PASA from two to three years.

Given that both rule change requests relate to the MT PASA and overlap in issues and potential costs and benefits, the Commission has determined under s.93 of the National Electricity Law (NEL), that the rule change requests be consolidated and treated as one request. Both rule changes requests will now be referred to as one request and will be progressed under the title Improving transparency and extending duration of MT PASA, with the project code ERC0270.

This consultation paper has been prepared to facilitate public consultation on the rule change request and to seek stakeholder submissions.

1.1 Structure of this paper

This consultation paper;

- sets out a summary of, and a background to, the rule change request,
- identifies a number of questions and issues to facilitate the consultation on this rule change request, and
- outlines the process for making submissions.

¹ Rule change requests from ERM Power on the 31 March 2019: Improving MT PASA transparency and accuracy; Extension of MT PASA duration

2 BACKGROUND

2.1 Medium-term Projected Assessment of System Adequacy

The NER require that AEMO administer the PASA processes.² The PASA is the principal method of indicating to the National Electricity Market (NEM) a forecast of electricity system security and reliability for a period of up to two years. The NER requires AEMO to administer the PASA for both a medium-term and short-term period. The subject of these rule change requests relate to the medium-term process, or MT PASA.

The MT PASA assesses the adequacy of expected electricity supply to meet demand across a two-year horizon through regular assessment of any projected failure to meet the reliability standard.³

The primary objective of the MT PASA is to provide sufficient information on the expected level of medium-term capacity reserve and hence allow market participants to schedule planned outages of generating units and network maintenance. AEMO also models the power system through MT PASA to project whether or not the reliability standard is projected to be met, i.e. through modelling of the expected unserved energy for a given year, in a given region. An expected shortfall, relative to the reliability standard, is termed a low reserve condition.

AEMO encourages a market response once it has declared a low reserve condition. If a market response is not forthcoming, AEMO may intervene, up to nine months ahead,⁴ through the procurement of emergency reserves using the reliability and emergency reserve trader (RERT).⁵ Inputs used in the MT PASA process are provided or projected by both AEMO and market participants. Inputs include demand forecasts, network constraints, generation capacity, energy constraints, intermittent generation forecasts and planned network outages.

2 Clause 3.7.1 of the NER

3 Clause 3.7.2 of the NER. The reliability standard is reviewed by the Reliability Panel and expresses the level of reliability sought from the NEM's generation and interconnection assets. The current reliability standard is a maximum expected unserved energy in a region of 0.002 per cent of the total energy demanded in that region for a given financial year. In other words, the reliability standard requires that there be sufficient generation and interconnection in a region such that at least 99.998 per cent of annual demand for electricity is expected to be supplied.

4 Clause 3.20.3(d) of the NER. As from 26 March 2020, this will be 12 months ahead, consistent with the Enhancement to the Reliability and Emergency Reserve Trader (RERT) final rule.

5 Rule 3.20 of the NER.

3 DETAILS OF THE RULE CHANGE REQUEST

The rule change request from ERM Power proposed to improve transparency and accuracy of the MT PASA as well as extend the duration by 12 months to three years. This chapter outlines the issues, proposed solutions, and costs and benefits put forward by ERM Power.⁶

The rule change request includes proposed rules. Copies of the rule change request may be found on the AEMC website.

3.1 Publication of aggregate generator availability data

3.1.1 Issue raised by ERM Power

ERM Power considered that the change in market structure⁷ has led to an unacceptable level of information asymmetry in MT PASA output information between market participants, which, if removed, would result in efficiency gains for both the NEM and the east coast gas markets.

ERM Power argued⁸ that consolidation of a significant share of NEM generator capacity into a small number of large vertically integrated retailers, 'gentailers', allows large generators to benefit from a significant information asymmetry advantage with regards to knowledge of generator full and partial outage plans. This is further compounded by the sharing of additional outside market knowledge of outages between the large gentailers.

ERM Power noted⁹ that currently, smaller generators, retailers, market intermediaries and larger market-facing consumers expend resources analysing MT PASA information to determine which generating unit may be planning an outage, sometimes with only limited success. The NEM only requires AEMO to publish generator availability data at an aggregate level.

3.1.2 Proposed solution

ERM Power proposed¹⁰ that AEMO be required to include individual scheduled generating unit availability data (generator full and partial outage plans), not just aggregate generating availability for each region, in the MT PASA outputs.

3.1.3 Costs and benefits

ERM Power noted¹¹ that generators currently submit MT PASA information to AEMO on an individual generating unit basis. As such, no additional information submission by generators would be required. The only change that would be required would be the release of this

6 Rule change requests submitted by ERM Power, 31 March 2019: Improving MT PASA transparency and accuracy; Extension of Mt PASA duration.

7 When the NEM commenced there were many competing generators, and now the market is dominated by a few large vertically integrated retailers 'gentailers', with a number of smaller generators making up the rest of the market.

8 ERM rule change request Improving MT PASA transparency and accuracy, 31 March 2019, p.2.

9 Ibid, p.3.

10 Ibid, p.3.

11 Ibid, p. 7.

information in the normal AEMO MT PASA process. This would incur a one-off data table change by AEMO and similar one-off changes in participants' systems to include and analyse the new data for which ERM Power believes the costs would be relatively minor.

ERM Power argued¹² that improving transparency in this area will allow generators to more effectively consider and plan the timing of unit outages based on an improved understanding of the potential market impact of each individual unit outage shown in the MT PASA.

3.2 Accuracy and transparency of demand forecasts used in the MT PASA process

3.2.1 Issue raised by ERM Power

ERM Power noted¹³ that the NER only requires AEMO to calculate and publish the "forecasts of the 10% probability of exceedence (POE) peak load, and most probable peak load".¹⁴ The most probable peak load is generally referred to as the 50 per cent probability of exceedence (or 50POE¹⁵) peak load forecast. The NER does not require AEMO to estimate 90POE demand for the purpose of MT PASA.

Besides being required to report these demand figures, ERM Power noted that AEMO also uses the demand forecasts in its probabilistic modelling process to forecast the potential for unserved energy (USE) within the MT PASA timeframe. In the MT PASA timeframe, AEMO only uses the 10POE and 50POE forecast demand when modelling USE. ERM Power argued¹⁶ that not including 90POE demand in the USE modelling was leading to inflated forecasts of USE.

3.2.2 Proposed solution

ERM Power proposed¹⁷ that the NER should, at a minimum, require AEMO to prepare not just the 10POE and 50POE demand forecast, but also the 90POE demand forecast in the MT PASA.

3.2.3 Costs and benefits

ERM Power stated that the 90POE demand forecast from AEMO's MT PASA modelling engine is the same as the modelling engine used in the Electricity Statement of Opportunities (ESOO¹⁸) forecasts. ERM Power also noted that the ESSO modelling utilises 90POE demand forecast in its assessment process. Given this, ERM Power was of the view¹⁹ that modelling 90POE forecast demand outcomes should be relatively straightforward for AEMO.

12 Ibid, p. 3.

13 Ibid, p. 3.

14 Clause 3.7.2 of the NER

15 From here on "50POE", will be used as the short hand expression, as will 10POE and 90POE.

16 Ibid, p. 4.

17 Ibid, p. 4.

18 The ESSO forecasts electricity supply reliability in the NEM over a 10-year period to inform the decision-making processes of market participants, new investors, and policy-makers as they assess future development opportunities

19 Ibid, p. 7.

3.3 Frequency of demand forecast update

3.3.1 Issue raised by ERM Power

ERM Power noted²⁰ that MT PASA demand forecasts are usually updated once a year, generally in May in line with the planning process updates for the ESOO. This results in an outcome where the last review of potential weather conditions and demand outcomes for the summer period may have occurred some six to eight months distant from the current summer period. This is of particular concern regarding the potential for overestimating USE, resulting in contracting of medium notice emergency reserves under the medium-notice RERT. This would result in higher costs for customers.

3.3.2 Proposed solution

ERM Power proposed²¹ that AEMO should be required to review and update forecast demand information on at least a monthly basis with specific regard to current forecast for weather conditions in the near-term three-month period, as opposed to the usual yearly forecast which is the current practice.

3.3.3 Costs and benefits

ERM Power argued the proposed change would improve the accuracy of forecast of USE, i.e. AEMO's medium-term assessment of reliability.

3.4 Transparency and ease of use of demand data

3.4.1 Issue explained by ERM Power

ERM Power observed²² there exists a significant issue with regards to the transparency and ease of use of demand data provided by AEMO, noting AEMO currently publishes demand forecast information in various formats, including but not limited to:

- native sent out or native as generated
- operational sent out or operational as generated
- scheduled as sent out or scheduled as generated.

ERM Power stated that AEMO publishes demand data in real time on both an operational as generated and scheduled as generated basis to meet the requirements of clause 3.13.4(x) of the NER. However, ERM Power observed that in MT PASA, forecast demand data is supplied by AEMO on an operational sent out basis which then requires the addition of separate estimated generator auxiliary load data to derive the value closest to the real time operational as generated data. ERM Power argued that this could lead to confusion and difficulties in comparison.

20 Ibid, p. 3.

21 Ibid, p. 4.

22 Ibid, p. 4.

3.4.2 Proposed solution

ERM Power proposed²³ that AEMO be required to align the format of the published MT PASA demand forecast with real time actual demand information i.e. in 'as generated' demand format.

3.4.3 Costs and benefits

ERM Power stated that AEMO currently prepares both operational and scheduled demand data on an "as generated" basis, and then subtracts the estimated generator auxiliary load from this data to use in their MT PASA modelling analysis. ERM Power believes there is no barrier to AEMO publishing the original "as generated" data in place of the current "sent out" demand data.

3.5 Transparency of forced outage rates

3.5.1 Issue explained by ERM Power

ERM Power noted²⁴ AEMO uses generator availability values which have been adjusted for probabilistically determined unplanned (forced) outages in the MT PASA. ERM Power noted the outputs from the MT PASA process currently provide no transparency with regards to the level of variability in available generation capacity being assumed in the modelling.

3.5.2 Proposed solution

ERM Power proposed²⁵ that AEMO be required to report on daily maximum and minimum regional adjusted scheduled generator availability data in the published MT PASA output data to address the lack of transparency.

3.5.3 Costs and benefits

ERM Power stated²⁶ that the proposed solution would incur a one-off data table change cost by AEMO and similar one-off changes in participants' systems to include and analyse the new data which ERM Power believes the costs would be relatively minor.

ERM Power argued there would be transparency benefits for parties who value such information to understand the regional adjusted scheduled generator availability values being calculated by AEMO during the MT PASA modelling process, and allow participants to better schedule planned outages.

23 Ibid, p. 5.

24 Ibid, p. 5.

25 Ibid, p. 5.

26 Ibid, p. 7.

3.6 Inclusion of intending generation in MT PASA output

3.6.1 Issue raised by ERM Power

ERM Power noted²⁷ that currently clause 3.7.2 of the NER requires that only a scheduled generator who has been approved for registration by AEMO is required to submit MT PASA inputs. In addition, AEMO is required to provide an unconstrained intermittent generation forecast (UIGF) only for each registered semi-scheduled generating unit for each day. ERM Power noted it is unclear if these requirements apply to intending participants.

ERM Power argued²⁸ that this omission of generation from the MT PASA assessment process that is currently under construction and expected to commence generation output within the MT PASA assessment time frame would result in additional and unnecessary costs to consumers (e.g. by triggering the long-notice RERT).

3.6.2 Proposed solution

ERM Power proposed²⁹ that AEMO be required to provide a preliminary classification of a committed generating unit, to be defined by AEMO in the Reliability Standard Implementation Guidelines (RSIG), as one of a scheduled generating unit, a semi-scheduled generating unit or a non-scheduled generating unit following consultation with the generating unit project proponent.

AEMO would then be required, in the MT PASA, to use generic PASA profiles for each generating unit type e.g. using a generic unconstrained intermittent generation forecast if the generation type is classified as semi-scheduled beforehand.

3.6.3 Costs and benefits

ERM Power noted³⁰ that AEMO currently maintains, updates and uses committed generation information for the Generation Information Page published on its website and in the ESOO. As such, the only additional costs for introducing this change will be internal to AEMO to include updated committed generating unit(s) input data for inclusion in the MT PASA assessment process.

3.7 MT PASA outlook

3.7.1 Issue raised by ERM Power

Currently the MT PASA covers a two-year period. ERM Power argued³¹ that with the current speed of changes in the NEM and the intermittent nature of output from the most common sources of new generation supply, which also has varying correlation to system demand outcomes as determined by AEMO, there is a need for the supply-demand balance to be assessed over a longer duration, and regularly. This would provide improved and earlier

27 Ibid, p. 5.

28 Ibid, p. 6.

29 Ibid, p. 6.

30 Ibid, p. 7.

31 ERM Power rule change request: Extension of MT PASA duration, 31 March 2019, p. 2.

signals than is currently the case for new supply capability or demand management in the medium-term timeframe.

3.7.2 Proposed solution

ERM Power proposed for the duration of the MT PASA timeframe to be extended from two to three years.

3.7.3 Costs and benefits

ERM Power argued³² that it proposed 12-month extension for the duration of the MT PASA provides relevant, consistent and transparent information to parties who require and value such information earlier in time than that which is currently the case. The proposed change would provide high quality and granular data of increased time duration from dispatch, updated on a routine basis based on the most recent information to allow participants, intermediaries and consumers to consider, plan and implement efficient strategies to the benefit of the market as a whole.

ERM Power noted from a generator's perspective, the requirement to extend data submissions to the MT PASA to three years compared to the current two year would not be onerous. ERM Power stated that maintenance of generating plants are planned over a long time horizon, generally in excess of the proposed three-year period. As such, ERM Power holds the view the initial requirement to advise an additional 12 months of outage plans compared to the current two years represents an incremental one-off change to the data submission process and an incremental change to maintain changes in outage timing when and if this occurs.

Extending the MT PASA modelling by an additional 12 months should not present a major obstacle as ERM Power understand AEMO currently uses the same modelling engine to model outcomes in the ESOO and Integrated System Plan timeframes which are of considerably longer duration than their proposed three years MT PASA timeframes³³. ERM Power acknowledged³⁴ that while the proposed change may require additional computing resources, the benefits of the change should outweigh the costs.

32 Ibid

33 Ibid, p. 3.

34 Ibid, p. 3.

4 ASSESSMENT FRAMEWORK

4.1 Achieving the NEO

Under the NEL the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the national electricity objective (NEO).³⁵ This is the decision-making framework that the Commission must apply.

The NEO is:³⁶

To promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to -

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system.

Based on a preliminary assessment of the rule change request, the Commission considers that the most relevant aspects of the NEO are promoting the efficient investment in, and efficient operation of electricity supply in the long-term interests of consumers with respect to:

- Improving transparency and quality of information.
- Minimising direct and indirect costs.
- Promoting reliability of the power system.
- Providing regulatory certainty.

4.2 Proposed assessment framework

To determine whether the rule change request promotes the NEO, the Commission will assess the rule change request against an assessment framework. The framework may be refined during the rule change process. The Commission is seeking stakeholder views on its proposed assessment framework, which includes the following criteria:

Improving transparency and quality of information: The provision of quality and transparent information is a key aspect of supporting the efficiency of the power system. Transparency and quality information can help market participants, AEMO and other parties in making efficient operational and investment decisions. The Commission will have regard to the extent to which the proposed changes improve the transparency and quality of information provided by the MT PASA.

Promoting reliability of the power system: Maintaining a reliable power system is a crucial objective of the NEM and in the long-term interest of consumers. The Commission will have regard to the potential benefits to reliability brought about by the proposed changes, weighed against the likely costs.

³⁵ Section 88 of the NEL.

³⁶ Section 7 of the NEL.

Minimising direct and indirect costs: The costs of reliability are ultimately borne by consumers. Any changes that affect operational and investment incentives for market participants in term of reliability and system adequacy would likely carry direct and indirect costs. The Commission will have regard to the cost impact of the proposed changes.

Providing regulatory certainty: Clear regulatory responsibilities reduce the risk of ambiguity and inconsistency, while promoting confidence in forecasting processes, in this case, the MT PASA process. The Commission will have regard to the extent to which the proposed changes provide regulatory certainty.

QUESTION 1: ASSESSMENT FRAMEWORK

Do stakeholders agree with the proposed assessment framework? Alternatively, are there additional principles that the Commission should take into account?

4.3 Making a more preferable rule

Under s. 91A of the NEL, the Commission may make a rule that is different (including materially different) to a proposed rule (a more preferable rule) if it is satisfied that, having regard to the issue or issues raised in the rule change request, the more preferable rule will or is likely to better contribute to the achievement of the NEO.

4.4 Making a differential rule

Under the Northern Territory legislation adopting the NEL, the Commission may make a differential rule if, having regard to any relevant MCE statement of policy principles, a different rule will, or is likely to, better contribute to the achievement of the NEO than a uniform rule. A differential rule is a rule that:

- varies in its term as between:
 - the national electricity system, and
 - one or more, or all, of the local electricity systems, or
- does not have effect with respect to one or more of those systems

but is not a jurisdictional derogation, participant derogation or rule that has effect with respect to an adoptive jurisdiction for the purpose of s. 91(8) of the NEL.

As the proposed rule relates to parts of the NER that currently do not apply in the Northern Territory, the Commission does not consider that the proposed rule needs to be assessed against additional elements required by the Northern Territory legislation.³⁷

³⁷ From 1 July 2016, the NER, as amended from time to time, applies in the NT, subject to derogations set out in regulations made under the NT legislation adopting the NEL. Under those regulations, only certain parts of the NER have been adopted in the NT. (See the AEMC website for the NER that applies in the NT.) National Electricity (Northern Territory) (National Uniform Legislation) Act 2015.

5 ISSUES FOR CONSULTATION

Taking into consideration the assessment framework, a number of issues have been identified for initial consultation. Stakeholders are encouraged to comment on these issues as well as any other aspect of the rule change request or this consultation paper, including the proposed assessment framework in section 4.2.

This chapter outlines the following issues for stakeholder feedback:

- Publication of aggregate generator availability data.
- Accuracy and transparency of demand forecasts used in the MT PASA process.
- Frequency of demand forecast update.
- Transparency and ease of use of demand data.
- Transparency of forced outage rates.
- Inclusion of intending generation in MT PASA output.
- MT PASA outlook.

In providing feedback on the rule change request, the Commission encourages stakeholders to consider the interactions of the proposed changes in thinking through the costs and benefits. In other words, stakeholders are encouraged to provide feedback on each issue separately, but also consider them in light of the package of changes proposed by ERM Power.

5.1 Publication of aggregate generator availability data

As outlined in section 3.1.1, AEMO is only required to publish aggregate generator availability data, even though generators are required to provide information to AEMO at the individual unit level, specifically, the individual dispatchable unit identification (DUID) level.

ERM Power argued that there is an information asymmetry between the big 'gentailers' and the smaller generators, which is created by the big gentailers having knowledge of generator full and partial outage plans, and further compounded by the sharing of additional outside market knowledge of outages between the large gentailers. Smaller participants, on the other hand, do not have access to this information and can only make inferences from the available, high-level output. ERM also noted that this impacts pricing in the gas markets where significant changes to fuel requirements for replacement generation at short notice may be required once the actual planned generator outage is known.

ERM Power considered that requiring AEMO to publish DUID level generation availability data would address this information asymmetry, and better equip all market participants in making operational decisions on maintenance and planning. Publishing DUID level data could, however, lead to confidentiality concerns, such as concerns that commercially-sensitive data could be made available due to the granular nature of the DUID level data.

ERM Power noted that whilst some stakeholders may view this information as being a commercially sensitive in nature; small generators, retailers, market intermediaries and

consumers currently have a much lower level of information compared to these larger gentailers with regard to which generator will be out of service or limited in capacity.

QUESTION 2: PUBLICATION OF AGGREGATE GENERATOR AVAILABILITY DATA

- (a) Do stakeholders consider that providing generator availability information at the aggregate level in the MT PASA output is an issue?
- (b) What are stakeholders' views on ERM Power's proposed solution i.e. requiring AEMO to publish generation availability at the DUID (unit) level? Or is there an alternative solution?
- (c) What are the particular commercial in confidence issues that would arrive if DUID level availability was to be published?

5.2 Accuracy and transparency of demand forecasts used in the MT PASA process

ERM Power proposed to require AEMO to publish 90POE peak demand forecasts in the MT PASA output. The Commission notes that ERM Power considered that this would lead to better forecasts and information provision, including reliability assessment, through the MT PASA.

The Rules do not prescribe how AEMO operationalises the reliability standard (i.e. how it forecasts expected USE). At present, AEMO operationalises the reliability standard through the RSIG. The RSIG is not wholly prescribed in the NER. Instead, it is a guideline that is updated by AEMO, through consultation with industry.

While ERM Power's rule change request discusses the impact of AEMO's existing processes on the calculation of expected USE, the Commission notes that the calculation of expected USE itself is not within scope of this rule change. AEMO will continue to do so through the RSIG, as is its current practice.

What is in scope, however, is the consideration of peak demand POE levels that AEMO is required to use as inputs into the MT PASA process. Specifically, ERM Power proposed to require AEMO to publish at least 10POE, 50POE and 90POE peak demand forecasts. At present, AEMO is only required to publish 10POE and the most probable peak demand data, although the NER also does not prevent AEMO from publishing other POE demand levels.

The Commission does note that the inclusion of a 90POE demand requirement in the MT PASA would indirectly affect how AEMO calculates the reliability standard. It is likely that AEMO would be required to update the RSIG to reflect the addition of an MT PASA input that is also used in its assessment of the reliability standard.

The Commission welcomes stakeholder feedback on the benefits and costs of requiring AEMO to consider a 90POE peak demand forecast as part of the MT PASA inputs.

QUESTION 3: ACCURACY AND TRANSPARENCY OF DEMAND FORECASTS USED IN THE MT PASA PROCESS

- (a) What are stakeholders' views on the benefits of requiring AEMO to publish 90POE peak demand forecasts in MT PASA?
- (b) What are stakeholders' views on the costs of including a 90POE peak demand forecast in the MT PASA process?

5.3 Frequency of demand forecast update

Even though the MT PASA is updated by AEMO on a weekly basis, with market participants also required to update their inputs into the MT PASA on a weekly basis, demand forecasts are typically only updated about once a year. The NER currently does not prescribe how often AEMO is to update its demand forecasts for the MT PASA.

ERM Power considered that it should be updated more often. ERM Power showed concern that if more update-to-date demand forecast for the upcoming summer is for lower demand (possibly due to a cooler summer than previously forecast), then under the current process the estimate USE would be high, potentially resulting in triggering RERT provisions unnecessarily.

ERM Power proposed in its rule change request to require AEMO to update its peak demand forecasts in the MT PASA with respect to:

- frequency: specifically, ERM Power is requesting that AEMO updates its peak demand forecasts at least monthly
- a metric: specifically, ERM Power is requesting that AEMO needs to have regard to the near-term three-month period weather conditions.

In assessing this proposal, the Commission is seeking stakeholders' views on the appropriateness of the proposal, the appropriateness of the frequency and metric proposed by AEMO, as well as the level of prescription proposed by ERM Power.

QUESTION 4: FREQUENCY OF DEMAND FORECAST UPDATE

- (a) What are stakeholders' views on ERM Power's proposal to require AEMO to update its demand forecasts more regularly? What would the benefits and costs be for doing this?
- (b) Specifically, do stakeholders think that the frequency proposed by ERM Power (i.e a monthly update) is appropriate?
- (c) Do stakeholders agree with ERM Power's proposed metric of requiring AEMO to have regard to three months of weather conditions?

5.4 Transparency and ease of use of demand data

AEMO publishes information about different types of forecast demand, as well as different types of actual demand data. ERM Power noted that this makes it difficult, particularly for participants less familiar with AEMO's data publication processes, to compare forecasts and actuals, as outlined in section 3.4.1.

For example, ERM Power observed that currently, in MT PASA, AEMO provides forecast demand data on an operational sent out basis which then requires the addition of separate estimated generator auxiliary load data to derive the value closest to the real time operational as generated data.

ERM Power proposed, in the interest of the provision of consistent and transparent information, that AEMO publish MT PASA demand forecasts in the same format as real time actual demand information based on clause 3.14.3(x) of the NER. At present, under the NER, the MT PASA does not prescribe any type or format for demand. However, clause 3.14.3(x) of the NER requires AEMO to demand both inclusive and exclusive of the aggregate actual generation from non-scheduled generating systems.

ERM Power's rule change request focusses on consistency of the data provided, rather than on requiring AEMO to publish a specific type of demand data. However, in doing so, the ERM Power proposal would also indirectly limit the types of demand that AEMO may use in the MT PASA, to maintain consistency with how AEMO interprets clause 3.14.3(x) of the NER.

QUESTION 5: TRANSPARENCY AND EASE OF USE OF DEMAND DATA

- (a) To what extent do stakeholders consider that the lack of consistency between the type of demand used in the MT PASA and type of demand reported as actuals is a problem?
- (b) What are stakeholders' views on ERM Power's proposed solution of requiring AEMO to be consistent in how it reports actual demand based on clause 3.13.3(x) of the NER?
- (c) What would the benefits and costs be if AEMO was required to be consistent in how it reports actual demand based on clause 3.13.3(x) of the NER?

5.5 Transparency of forced outage rates

At present, the NER do not require AEMO to publish its assumptions on forced outage rates. In the MT PASA modelling process, AEMO's simulations of the power system will make assumptions, in each simulation, about the forced outage (i.e. an unplanned outage) of generating units. The modelling process would then use an adjusted value for generation availability, based on the average of the simulations.

ERM Power considered in its rule change request that there is no transparency as to what the forced outage rates are and that this information would be useful in providing greater transparency for participants. In particular, it would assist participants to better understand the impact on AEMO's forecasts of USE and allow better scheduling of planned outages.

Specifically, ERM Power proposed that better transparency would be achieved if AEMO were required to provide:

- the adjusted maximum aggregate scheduled generation availability
- the adjusted minimum aggregate scheduled generation availability

The Commission understands that, the minimum and maximum generation availability data, in conjunction with the aggregate scheduled generation availability data already provided by AEMO, would provide market participants with a range of generation availability data to enable them to make inferences about AEMO's assumed forced outage rates.

The Commission welcomes feedback on whether stakeholders consider it would be beneficial if AEMO provided the above, and if the maximum/minimum approach is appropriate.

QUESTION 6: TRANSPARENCY OF FORCED OUTAGE RATES

(a) Do stakeholders consider the lack of transparency of AEMO's estimates of unplanned outages in the MT PASA outputs causes issues?

(b) What are stakeholders' views on ERM Power's proposed solution to report maximum and minimum aggregate generation availability data? What would the benefits and costs be for doing this?

5.6 Inclusion of intending generation in MT PASA output

At present, AEMO uses "committed generation" information in its ESOO process, including when it is assessing the reliability standard. However, in MT PASA, the NER only requires AEMO to include PASA availability, which only applies to scheduled, semi-scheduled and unscheduled generators and scheduled loads. Typically, the Commission understands that this would not include "committed generation" or generation from intending participants.

ERM Power's proposal would require AEMO to:

- assign a preliminary classification for "committed generation", and that AEMO would do so through the RSIG and in consultation with project proponents
- use the generic PASA availability profile for scheduled generating unit if classified as such and the unconstrained intermittent generation forecast if classified as a semi-scheduled generating unit.

In addition to seeking stakeholder views on the merits of expanding the types of generation that are used in MT PASA to include committed generation, the Commission is also seeking stakeholder feedback on the following, should it conclude that there is merit in ERM Power's proposal:

- "Committed generation" is currently not defined in the NER, but is it used by AEMO in its ESOO process. The Commission welcomes stakeholders' views on whether or not committed generation should be defined or prescribed in the NER.

- ERM Power proposed that AEMO should assign a preliminary classification for "committed generation" through the RSIG. The RSIG describes how AEMO implements the reliability standard. The Commission welcomes stakeholders' views on whether or not the RSIG is an appropriate guideline for this task.

QUESTION 7: INCLUSION OF INTENDING GENERATION IN MT PASA OUTPUT

(a) To what extent do stakeholders consider the lack of clarity on the inclusion of intending generation such as "committed generation" is an issue?

(b) What are stakeholders' views on ERM Power's proposed solution, as described above and in its rule change request?

5.7

MT PASA outlook

ERM Power proposed to extend the MT PASA duration from two to three years, noting that making this change would provide a number of benefits, including:

- Complementing the proposed Retailer Reliability Obligation by providing ongoing routine assessment and updating of any reliability gap and an ongoing review of any expected USE and the timing of this expected USE during any identified gap period.
- Supporting the earlier commencement of retailer discussions with potential suppliers, which in turn may elicit the faster development of demand response capability in the NEM.
- Allowing generation facilities to better plan maintenance outages in the two to three year timeframe
- More fully aligning with information in a three-year generator closure notification
- Removing the potential for forecast USE to arise due to the overlap of planned maintenance outages
- Assisting both gas-fired generation and coal-fired generation supplied by external fuel suppliers to more efficiently profile fuel requirements.

The Commission welcomes feedback on whether stakeholders consider extending the MT PASA outlook to three years would provide benefits, and what the likely costs of making such a change would be.

At present, the MT PASA and ESOO overlap - i.e. the ESOO, like MT PASA provides forecasts for one year ahead. However, ESOO is only updated once a year, by 31 August of each year, while MT PASA is updated weekly and provides more granular information. Extending the MT PASA to three years would increase the overlap already present with the ESOO i.e. both the MT PASA and the ESOO would produce forecasts of system reliability between one and three years out. The Commission welcomes feedback on the impact of this greater overlap between the MT PASA and the ESOO, if any.

QUESTION 8: MT PASA OUTLOOK

- (a) Do stakeholders consider the MT PASA duration of two years is insufficient?
- (b) What are stakeholders' views on ERM Power's proposed solution to extend the MT PASA to three years?
- (c) Do stakeholders consider extending the MT PASA to three years, increasing the overlap with the ESOO, would have any impact (positive or negative)?

6 LODGING A SUBMISSION

Written submissions on the rule change request must be lodged with Commission by 15 August 2019 online via the Commission's website, www.aemc.gov.au, using the "lodge a submission" function and selecting the project reference code ERC0270.

The submission must be on letterhead (if submitted on behalf of an organisation), signed and dated.

Where practicable, submissions should be prepared in accordance with the Commission's guidelines for making written submissions on rule change requests.³⁸ The Commission publishes all submissions on its website, subject to a claim of confidentiality.

All enquiries on this project should be addressed to Joel Aulbury on (02) 8296 1648 or joel.aulbury@aemc.gov.au.

³⁸ This guideline is available on the Commission's website www.aemc.gov.au.

ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	See AEMC
DUID	Dispatch unit identification
ESOO	Electricity Statement of Opportunities
MCE	Ministerial Council on Energy
MT PASA	Medium Term Projected Assessment of System Adequacy
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Energy Rules
NERL	National Energy Retail Law
NERO	National Energy Retail Objective
NGL	National Gas Law
NGO	National Gas Objective
RERT	Reliability Emergency Reserve Trader
RSIG	Reliability Standard Implementation Guidelines
POE	Probability of Exceedance
UIGF	Unconstrained intermittent generation forecast
USE	Unserved energy