Australian Energy Market Commission

RULE CHANGE

DRAFT RULE DETERMINATION

National Electricity Amendment (Declaration of Lack of Reserve Conditions) Rule 2017

Rule Proponent(s)
AEMO

17 October 2017

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AEMC 2017, Declaration of Lack of Reserve Conditions, Draft Rule Determination, 17 October 2017, Sydney

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.

Summary

The Australian Energy Market Commission (Commission) has made a draft rule that promotes short-term reliability in the national energy market (NEM). It does so by modifying the existing framework for the declaration of lack of reserve (LOR) conditions to be more flexible, sophisticated and transparent. The declaration of lack of reserve conditions is a key way that AEMO provides information to the market of when there could potentially be a lack of reserves in the NEM, and so seeking a market response of either more generation or lower demand in order to manage this.

The Commission's draft rule will introduce a more flexible way for the Australian Energy Market Operator (AEMO) to declare lack of reserve conditions, allowing the system operator to move from the current contingency-based deterministic approach, to one that is probabilistic, while also maintaining the transparency of the existing framework. A probabilistic approach will enable AEMO to take into account all the relevant risk factors that could affect reserve levels, without limiting it to the singular concept of a credible contingency. This approach will more accurately capture the risk of involuntary load shedding, as well as promoting more efficient market responses to potential shortfalls in the short-term.

The draft rule is made in response to a rule change request from AEMO. AEMO notes it wants to have this rule in place this summer, which it has identified as a period where there is a heightened risk of reliability problems. Having a rule in place by summer would enable AEMO to trigger the LOR framework under a wider range of risk scenarios than those presently allowed for by the definitions in the National Electricity Rules (NER). The Commission is therefore treating this rule change as a priority, while still allowing industry and consumers sufficient opportunity to provide input under the standard timeframes for consultation, given the nature and implications of the changes proposed.

The Commission's draft rule is as proposed by AEMO, with some amendments made to improve the transparency of the new framework, including introducing a more robust consultation process than the one proposed by AEMO.

The Commission's rationale

The power system is changing. The world of energy today is one that is constantly evolving. A decade ago, the growth in demand for energy appeared inexorable, but this trend has since changed. Existing and new technology is transforming energy efficiency and the way that consumers use electricity. At the same time, the penetration of renewable, variable generation and distributed energy resources are having implications as well.

The LOR declaration framework has existed since the start of the NEM. Its primary function is to inform the market of the risk of involuntary load shedding in the short term, that is, to let participants know that potential shortfalls in reserves may occur in the next seven days. At certain risk levels, AEMO will seek to alleviate the potential shortfalls in reserves by calling for a market response. It does this by informing market

participants of the potential of lack of reserve conditions. In response, the market may either offer in more generation, or reduce demand. In an extreme case, AEMO may use its various intervention mechanisms at hand in order to maintain a reliable and secure power system.

This framework is an important information tool that promotes efficient market responses to tight demand-supply conditions. In a world that is changing, the existing framework, which is based on deterministic conditions, is no longer fit for purpose. LORs are currently declared based on the concept of credible contingencies. For example, AEMO will declare a LOR2 if available reserves fall below the size of the largest credible contingency. Nowadays, it is possible for forecast and availability errors, both on the demand and on the supply side, to be larger than the largest credible contingency, particularly on extreme weather days. These errors are not related to credible contingency events. Therefore, the current LOR framework does not consider such errors.

The draft rule introduces a probabilistic and flexible approach to declaring LORs. A probabilistic approach is difficult to express prescriptively in the NEM and the Commission's draft rule does not attempt to do that. Instead, the draft rule removes the current three levels of descriptions of lack of reserve from the NER and replaces them with a single high-level definition for lack of reserve, as well as a requirement for AEMO to make and publish guidelines, in accordance with a consultation process that will be set out in the NER, that include *how* AEMO will determine a lack of reserve condition. The initial set of these guidelines are being developed alongside this rule change process and are also subject to consultation, as discussed below. The draft rule sets out the factors that AEMO must take into account when assessing whether or not to declare an LOR as well as minimum requirements for the guidelines.

The Commission has addressed a number of stakeholder concerns in making this draft rule, including by:

- obliging AEMO to declare at least three LOR levels, instead of two, and specifying that these three levels be called LOR1, LOR2 and LOR3, to maintain consistency and familiarity with the current framework

- introducing a more robust consultation procedure for amendments to the guidelines through requiring AEMO to use a shortened version of the (existing and well-understood) rules consultation procedures to improve transparency and to make sure that AEMO will be obliged to consult with all parties, rather than with a limited group of stakeholders, when amending the guidelines

- explicitly allowing stakeholders to request an amendment to the guidelines.

Specifically, the draft rule:

- introduces the definition of lack of reserve conditions as: "when AEMO determines, in accordance with the reserve level declaration guidelines, that the probability of involuntary load shedding is, or is forecast to be, more than remote."

- includes the factors that AEMO must take into account when creating and amending the methodology to declare LORs
- requires AEMO to:
  - declare at least three LOR levels (to be called LOR1, LOR2 and LOR3)
  - explain how it will declare LORs
  - consult with all parties, rather than with a limited group of stakeholders, when amending the guidelines
  - review the guidelines at least once every four years
- gives the word "involuntary" its ordinary meaning, therefore improving the accuracy of the use of the concept of "involuntary load shedding".

The Commission concludes that the draft rule will improve the LOR framework as the new framework will more accurately predict the risk of load shedding which will lead to more efficient outcomes on short-term reserves and reliability for consumers. The new framework will minimise instances of non-declarations of forecast LORs that should have been declared, thereby promoting better market responses, for example, by providing enough warning to generators that there may be a shortfall in reserves.

The new framework is also likely to lead to a rise in the number of LORs declared. However, this does not automatically translate to more interventions. In fact, more accurate reporting of potential lack of reserve conditions increases the possibility of a market response to such lack of reserves (since these will be more accurately reported) and could minimise the risk of interventions.

Further, *how* AEMO intervenes has not changed - AEMO will continue to trigger interventions based on the principles and procedures that are included in various guidelines (such as the *Reliability Standard Implementation Guidelines* and the *Reliability and Emergency Reserve Trader Guidelines*).

The new LOR framework will also improve the transparency of how LORs are declared. Under the new framework, the methodology for declaring LORs will be consulted on by AEMO and published in its guidelines. Updates to the methodology will also be consulted on.

Finally, the Commission concludes that new framework introduces flexibility which will provide AEMO with the opportunity to implement its proposed changes that use a probabilistic, rather than deterministic, approach to the declaration of LORs.

Transitioning to the new LOR framework

The initial guidelines are being developed and consulted on in parallel with this rule change and an initial version of these guidelines has been published alongside this draft determination. The draft rule states that the final rule, if made on 19 December 2017, will commence on 9 January 2018. This will allow AEMO to avoid introducing

the new LOR framework (if the final rule is made as per the draft rule) during the Christmas-New Year holiday period, which is a period of low demand. This will also give AEMO the time to incorporate any changes to the guidelines to reflect any changes made in the final rule.

The draft rule includes the following transitional rules:

- AEMO must develop and publish the reserve level declaration guidelines by 9 January 2018
- AEMO is not required to comply with the consultation procedures included in the rules when making the guidelines for the first time.

Consultation and next steps

The **Commission** invites submissions on this **draft rule determination**, including a draft rule, by **28 November 2017**. Following consideration of submissions, the Commission intends to publish its final determination on 19 December 2017.

If any stakeholder wants to discuss aspects of this draft determination with the Commission, please do not hesitate to contact Sarah-Jane Derby on (02) 8296 7823 or sarah.derby@aemc.gov.au to request a meeting.

The Commission encourages stakeholders to provide feedback to **AEMO on its draft guidelines**. Submissions in response to the content of AEMO's draft guidelines should be sent by email to lor2017@aemo.com.au by **14 November 2017**. Please send any queries about AEMO's draft guidelines to the same email address.

Contents

1 AEMO's rule change request

1.1 The rule change request

On 1 August 2017, AEMO made a request to the Australian Energy Market Commission (AEMC or Commission to make a rule regarding the declaration of lack of reserve conditions (rule change request).

AEMO considers that the descriptions of each of the three lack of reserve (LOR) levels that currently sit in clause 4.8.4 of the National Electricity Rules (NER) are no longer appropriate for identifying risks in the power system, and so it is seeking to replace these with a framework triggered by a wider range of risks than those presently allowed for in the definitions. Specifically, AEMO is proposing to remove the current contingency-based LOR framework from the NER, which currently contains descriptions for three levels of lack of reserve. It is proposing to replace them with a single, high-level description of lack of reserves, as well as a requirement for AEMO to make guidelines that set out how it will determine a lack of reserve condition. The NER would also contain minimum requirements for the guidelines, and factors that AEMO must take into account when assessing how to declare an LOR, according to the proposal.

The rule change request and accompanying proposed rule are available on the AEMC website.[1]

1.1.1 Key dates for this rule change request

In submitting its rule change request, AEMO noted that it would like to have this rule in place for this summer in order to enable the LOR framework to immediately benefit from these changes.

The Commission notes that AEMO's latest *Electricity Statement of Opportunities* publication concluded that:[2]

> "*...there is a heightened risk of significant unserved energy (USE) over the next 10 years, compared with recent levels. AEMO's analysis shows a heightened risk that the current NEM reliability standard will not be met and confirms that for peak summer periods, targeted actions to provide additional firming capability are necessary to reduce risks of supply interruptions....The highest forecast USE risk in the 10-year outlook is in 2017–18 in South Australia and Victoria.*"

The Commission recognises the importance of making a final determination for this rule change request by summer. However, the nature of the proposed changes in this request is such that the Commission considers that industry should have sufficient opportunity for consultation. Accordingly, given the particular circumstances

1 See http://www.aemc.gov.au/Rule-Changes/Declaration-of-lack-of-reserve-condition

2 AEMO, *Electricity Statement of Opportunities*, September 2017, p.1

associated with the rule change, the Commission is assessing this rule change request through the standard timeframe,[3] but is treating this rule change request as a priority and is significantly advancing its consideration of the issues. The timeframes that stakeholders have to consider and respond to the matters are the same as those used under the standard rule making process.

The Commission also held a stakeholder workshop in the lead up to the draft determination, which gave stakeholders the opportunity to hear from AEMO about the problem that it is seeking to resolve through this rule change request, and an update on its development of the new framework, as well as to receive answers to questions that they had raised in their submissions in relation to AEMO's proposed new method for declaring LOR conditions.

The key dates for stakeholders in this process are therefore:

- Commencement of this rule change process: 22 August 2017
- Submissions to the consultation paper to be received by (4 weeks): 19 September 2017
- Stakeholder workshop: 5 October 2017
- Publication of draft determination and draft rule: 17 October 2017
- Submissions to the draft determination and draft rule to be received by (6 weeks): **28 November 2017**
- Publication of final determination: 19 December 2017

If there is significant stakeholder concern or comments raised throughout this process, including to the draft determination, the Commission will consider what further consultation is necessary.

The Commission invites submissions on this draft rule determination, including the draft rule, by **28 November 2017**. Following consideration of submissions, the Commission intends to publish its final determination on 19 December 2017.

Any person or body may request that the Commission hold a hearing in relation to the draft rule determination. Any request for a hearing must be made in writing and must be received by the Commission no later than 24 October 2017.

If any stakeholder wants to discuss aspects of this draft determination with the Commission, please do not hesitate to contact Sarah-Jane Derby on (02) 8296 7823 or sarah.derby@aemc.gov.au to request a meeting.

3 AEMO did not seek to have this rule change assessed under the expedited rule change process, which would have required the request to meet the urgent or non-controversial test under section 96 of the National Electricity Law.

Submissions and requests for a hearing should quote project number ERC0226 and may be lodged online at www.aemc.gov.au or by mail to:

Australian Energy Market Commission
PO Box A2449
SYDNEY SOUTH NSW 1235

The Commission also notes that on the same day that this draft determination and draft rule is published, AEMO published a draft set of reserve level declaration guidelines. These are discussed below.

1.2 Consultation on AEMO's draft guidelines

In order to facilitate the use of the new method for this coming summer, as well as to increase stakeholder understanding of how this method will operate and be used, AEMO is developing its initial guidelines in parallel with the AEMC's assessment of this rule change request. AEMO has provided the Commission with a set of draft reserve level declaration guidelines which are published on the AEMC's website[4] alongside the draft determination. The draft guidelines are also published on AEMO's website for consultation with stakeholders.[5]

The Commission encourages stakeholders to provide feedback to AEMO on its draft guidelines. Submissions in response to the content of AEMO's draft guidelines should be sent by email to lor2017@aemo.com.au by **14 November 2017**. Please send any queries about AEMO's draft guidelines to the same email address.

If a final rule is made in the form of the draft rule, AEMO will be required to have the first version of the guidelines in place by 9 January 2018. This gives AEMO time to amend the guidelines based on feedback from the consultation process and to reflect any amendments made in the final rule, which, at this point in time, the Commission expects to publish on 19 December 2017.

To summarise:

- Submissions on the draft rule, including the provisions relating to the framework and requirements for the guidelines (that is, the contents of the NER) should be sent to the AEMC.

- Submissions on the content of the guidelines should be sent to AEMO.

Should any stakeholders have any queries in relation to the consultation process outlined above, please contact Sarah-Jane Derby on (02) 8296 7823 or sarah.derby@aemc.gov.au.

4 See http://www.aemc.gov.au/Rule-Changes/Declaration-of-lack-of-reserve-conditions.

5 See http://www.aemo.com.au/Stakeholder-Consultation/Consultations

1.3 Current arrangements

This section summarises the current arrangements for lack of reserve declarations under the NER. These arrangements are described in further detail in the consultation paper on the rule change request.[6]

Reserve levels are a concept defined in the NER[7] and refer to the amount of spare capacity available given amounts of generation, forecast demand and demand response, and scheduled network service provider (NSP) capability at any point in time.[8] A reserve level indicates the difference between available resources to meet demand for energy, and the level of energy demanded.

1.3.1 What are LOR conditions?

The lack of reserve (LOR) conditions, and declarations of these under NER clause 4.8.4, form part of the current reliability framework in the NEM. As set out in the NER, there are currently three different deterministic levels of assessment of the availability of lack of reserve, each corresponding to a different availability of reserves. These levels are:[9]

- Lack of reserve level 1 (LOR1), defined in clause 4.8.4(b), means that two successive credible contingencies, such as the loss of the two largest generating units, could result in there being insufficient supply to meet demand.
- Lack of reserve level 2 (LOR2), defined in clause 4.8.4(c), means that a credible contingency, such as the loss of the largest generating unit, would result in there being insufficient supply to meet demand.
- Lack of reserve level 3 (LOR3), defined in clause 4.8.4(d), means that there is insufficient supply to meet demand. An LOR3 condition would represent load shedding.

Clause 4.2.3(b) defines a credible contingency event as a contingency event,[10] the occurrence of which AEMO considers to be reasonably possible in the surrounding circumstances including the technical envelope. They may be caused by events such as the loss of a single generator, a single load or a single line in the network.

This concept of "credible contingencies", as noted above, is used within the context of reliability as well as system security. In relation to reliability, the definitions of LOR1

6 The consultation paper may be found on the AEMC website at http://www.aemc.gov.au/Rule-Changes/Declaration-of-lack-of-reserve-conditions.

7 Capacity reserve is defined in chapter 10 of the NER.

8 As well as network capability, particularly interconnectors, which allow different regions to share reserves.

9 Clause 4.8.4 of the NER.

10 A contingency event is defined in NER clause 4.2.3(a) as being an event affecting the power system which AEMO expects would be likely to involve the failure or removal from operational service of one or more generating units and/or transmission elements.

and LOR2 incorporate the concept of credible contingency events, but provide further guidance about how the concept could be interpreted; that is, the loss of the *largest* generating unit. This particular additional guidance is unique to the LOR framework.[11]

The adequacy or fitness for purpose of the definition of credible contingency events in relation to either reliability or security is outside of the scope of this rule change request. It is instead being considered through the Commission's *Reliability Frameworks Review*,[12] which is a holistic review of the market and regulatory frameworks that underpin reliability in the NEM.

1.3.2 How does AEMO make a LOR declaration?

The declaration of LOR conditions is the main mechanism by which AEMO communicates the short-term risk of insufficient capacity and so involuntary load shedding to industry and government from real-time up to the end of the short-term horizon, i.e. six days into the future, the same time horizon as the short-term projected assessment of system adequacy (PASA).[13]

Therefore, the purpose of the LOR framework is to inform the market that short term reserves are running low, through a well-understood and transparent framework.[14]

In particular, the declaration of LORs is notified to the market when AEMO publishes a notice in accordance with NER clause 4.8.5. Such notices are circulated to all market participants. The effect of issuing a market notice is to encourage any spare capacity to be bid into the market, or for demand to be reduced, i.e. to seek a market response.

The forecast conditions of a lack of reserve, and the associated AEMO notice, can be cancelled by AEMO before that condition eventuates. These cancellations may be issued due to a number of reasons, including revised demand forecasts, increased amounts of generation being made available or voluntary reductions in demand in response to public notices, leading to an improvement in reserves so that a lack of reserve is no longer forecast.

If a LOR is not resolved by a market response, then the current broader reliability framework allows AEMO to trigger intervention mechanisms, primarily to minimise

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11 In fact, for the medium term outlook for reserves, AEMO declares low reserve conditions, which are calculated probabilistically and are not linked to credible contingency events.

12 See http://www.aemc.gov.au/Markets-Reviews-Advice/Reliability-Frameworks-Review.

13 Short-term PASA covers the period six days into the future, starting from the end of the trading day covered by the pre-dispatch schedule. The pre-dispatch schedule covers the period starting from the next trading interval to the final trading interval of the day for which all dispatch bids and offers have been received.

14 It is worth noting that, sometimes, either industry or governments choose to inform the wider public of the declaration of LOR conditions. For example, on February 10, the NSW Energy Minister thanked residents who reduced their electricity usage during forecast LOR conditions. See: http://www.abc.net.au/news/2017-02-10/nsw-power:-blackouts-across-the-state-averted/8260830

the risk of involuntary load shedding. AEMO can issue a direction,[15] clause 4.8.9 instruction[16] or use the reliability and emergency reserve trader (RERT i.e. additional contracted reserve capacity)[17] to reduce the risk of load shedding. In that sense, LOR notices are generally the last opportunity for a market response to a forecast shortfall.

In deciding whether or not to intervene, AEMO makes this decision based on a variety of factors set out in the NER, including power system conditions related to security, noting that AEMO will prioritise security over reliability as per its obligations in the NER. AEMO must then let the market know why and by when it will intervene.[18]

In practice, AEMO may trigger an intervention following a declared LOR2 or LOR3. However, the NER does not prescribe this - the main action that the NER obliges AEMO to take once an LOR is declared is to inform the market of the potential or actual shortfall.

1.3.3 How does AEMO currently calculate LOR levels?

AEMO currently calculates LOR levels based on the credible contingency-based framework that is in the NER:

- for a LOR1, this is the amount of capacity (MW) needed to withstand two credible contingency events without resorting to load shedding
- in the case of a LOR2, this is the amount of capacity (MW) needed to withstand one credible contingency event without the need for load shedding.

Using this method, AEMO calculates LOR levels for each region for each time period. The deterministic method means that AEMO will forecast one specific amount for LOR1 reserves, one amount for LOR2 reserves and one amount for total reserve levels, for each trading interval, for each region. The amount forecast is in terms of capacity (MW).

LORs are declared if the forecast total reserve level in short-term PASA (that is, available reserves) is lower than the calculated LOR levels (either LOR1 or LOR2), that is, if available reserves are not enough to cover the size of a credible contingency event in the case of LOR2.

Total available reserves are forecast from outputs of the short-term projected adequacy of supply (short-term PASA) and pre-dispatch projected adequacy of supply (pre-dispatch PASA) process. Short-term PASA and pre-dispatch PASA solve for reserves for each region and for every half-hour within their respective time horizon.

15 Clause 4.8.9(a1)(1) of the NER.

16 Clause 4.8.9(a1)(2) of the NER.

17 See clauses 3.20.7 and 3.20.8 of the NER.

18 Clause 4.8.5A and Clause 4.8.5B of the NER.

Their objective functions are to maximise reserves in each specific region for the half-hour it is solving.[19]

AEMO will publish market notices to advise the market of the potential shortfall once LOR1 and LOR2 are declared. AEMO also issues notices for LOR3 conditions.[20] LOR3s are not calculated as such as they represent imminent or actual load shedding, that is a situation whereby the power system is running out or has run out of reserves.

1.4 Rationale for the rule change request

In its rule change request, AEMO identifies the problem that it is seeking to address as being two-fold:

- First, AEMO considers that the concept of credible contingencies no longer represent an accurate risk of load shedding since forecast errors that are completely unrelated to contingencies now occur frequently, for example, short-term demand and supply forecast errors in extreme conditions. In some instances, they these can even be larger than the single largest credible contingency.

- Second, AEMO notes it is working on a more sophisticated approach to predicting the risk of load shedding to address the rise in the abovementioned forecast errors, and the current contingency-based LOR framework is not compatible with this approach.

1.5 Solution proposed in the rule change request

AEMO is presently analysing historical forecast errors in both the inputs and the outputs to PASA. AEMO noted in its rule change request that it is currently trialling a Bayesian Belief Network[21] that will find correlations between historical forecast errors and relevant conditions, such as the forecast lead-time, ambient temperature, expected wind and solar forecast. In particular, the analysis will lead to a distribution of possible variations (i.e. errors) from a reserve forecast. AEMO states that it intends to incorporate the results of the trial with conventional contingencies to calculate a more accurate distribution of the risk of involuntary load shedding.

AEMO's proposed solution would:

- remove the three current contingency-based LOR descriptions from the NER and replace them with a single high-level description of lack of reserve

19 Taking into account constraints so that only the total amount of energy transmissible to customers is considered. See AEMO, Electricity rule change proposal - lack of reserve declarations, 1 August 2017, p. 8.

20 LOR3 is not linked to credible contingency events and typically follows an LOR2 declaration that is not resolved by the market. It is also based on short-term PASA forecasts.

21 Ibid. p. 8.

- move the details of the LOR framework to a guideline (the "reserve level declaration guidelines") to be developed by AEMO, supported by a framework for the guidelines in the NER

- use a probability assessment to declare LORs, although initially, this would still be based on the current contingency-based framework.

In particular, AEMO proposes to delete clauses 4.8.4 (b), (c) and (d), which currently provide contingency-based definitions of LOR1 and LOR2 and a prescriptive definition of LOR3 respectively and replace them with one high-level definition for lack of reserve, as follows:

> "when AEMO determines, in accordance with the reserve level declaration guidelines, that the probability of involuntary load shedding is, or is forecast to be, more than remote."

Under AEMO's proposed solution, the high-level framework set out in the NER for the guidelines would set out what it should include when preparing the reserve level declaration guidelines, what the probability assessment AEMO plans to use for declaring LORs must take into account, and consultation details for amending the guidelines.

1.6 The rule making process

On 22 August 2017, the Commission published a notice advising of its commencement of the rule making process and consultation in respect of the rule change request.[22] A consultation paper identifying specific issues for consultation was also published. Submissions closed on 19 September 2017.

The Commission received 13 submissions as part of the first round of consultation. The Commission considered all issues raised by stakeholders in submissions. Issues raised in submissions are discussed and responded to throughout this draft rule determination. Issues that are not addressed in the body of this document are set out and addressed in Appendix A.

1.7 Structure of draft rule determination

This draft determination is structured as follows:

- chapter 2 summarises the Commission's draft rule determination, including its assessment framework and summary of reasons for making the draft rule

- chapter 3 sets out the views of AEMO and stakeholders, as well as the Commission's analysis and conclusions, on the overall LOR framework

22 This notice was published under s. 95 of the National Electricity Law (NEL).

- chapter 4 examines issues raised stakeholders with regards to the level of consultation for amending the guidelines and sets out the Commission's conclusions
- chapter 5 sets out the views of AEMO and stakeholders on the implementation phase, as well as the Commission's analysis and conclusions
- chapter 6 examines other minor issues and sets out the Commission's conclusions
- appendix A summarises all other issues raised in submissions that were not explicitly discussed in the draft determination
- appendix B sets out the legal requirements under the NEL.

2 Draft rule determination

The Commission's draft rule determination is to make the draft rule as proposed by AEMO with some amendments to the drafting, primarily to improve transparency and the governance arrangements relating to the LOR framework. The draft rule's policy intent is as proposed by AEMO, that is, to introduce flexibility to the framework by removing the prescriptive definitions for LOR levels from the NER and replacing them with guidelines to be developed and published by AEMO through consultation. The draft rule introduces a new framework for declaring LORs that more accurately reflects the risk of load shedding and, by extension, gives a better understanding of the risk faced by the market.

The Commission's reasons for making this draft determination are set out in section 2.3.

This chapter outlines:

- the rule making test for changes to the NER - contributing to the achievement of the national electricity objective;
- the assessment framework for considering the rule change request; and
- the Commission's consideration of the draft rule against the national electricity objective.

Further information on the legal requirements for making this draft rule determination is set out in Appendix B.

2.1 Rule making test

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).[23] This is the decision making framework that the Commission must apply.

The NEO is:[24]

> "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."

23 Section 88 of the NEL.

24 Section 7 of the NEL.

The framework used for assessing whether the proposed rule will, or is likely to, contribute to the achievement of the NEO is set out in section 2.2 below.

The Commission will not assess the proposed rule against additional elements required by the Northern Territory legislation as the proposed rule relates to parts of the NER that currently do not apply in the Northern Territory. Requirements relating to that are described in appendix B.4.

2.2 Assessment framework

This section sets out how the Commission assessed whether the proposed rule will, or is likely to, contribute to the achievement of the NEO.

The Commission considers that the relevant aspects of the NEO are the efficient operation and use of electricity services with respect to the reliability of supply of electricity and reliability of the national electricity system because:

- AEMO uses declarations of LORs to inform the market that reserve levels are low and to communicate the risk of load shedding. Market participants use this information to manage risk and to make efficient operational decisions. Managing the risk of load shedding and having an adequate supply of electricity through efficient operational decisions directly contribute to the reliability of supply.
- LORs represent the short-term risk of load shedding, typically about a week in the future. As a result, they primarily drive short-term operational decisions. However, they can also have an impact on the broader reliability framework which includes the investment decisions made by market participants.

In assessing the rule change request against the NEO, the Commission has considered the following principles:

- **Providing certainty and managing risk**: For declarations of LORs to work efficiently in eliciting a market response, participants must understand what is the risk implied by declaration. In assessing this rule change, the Commission has considered the extent to which the proposed rule will improve the confidence of the market with regards to the risk of load shedding and whether this would lead to more efficient management of load shedding risk.
- **Quality of information**: High-quality information is important as it underpins the accuracy of the forecasts used to declare LORs and by extension, the meaningfulness of the notices. More accurate forecasts minimises erroneously-declared LORs and allows AEMO to better target interventions. The Commission has considered the extent to which the proposed rule will improve the meaningfulness of the notices and the efficiency of the operation of the LOR framework.

- **Transparency of information**: Transparency of information is a key feature of markets and promotes efficient decisions made by market participants. The Commission considered the extent to which the proposed rule will improve transparency of what constitutes an LOR and the methodology behind an LOR declaration for stakeholders.

- **Balance between improving flexibility and imposing costs**: AEMO considers that its proposal would improve flexibility of the LOR framework. Flexibility can promote efficient outcomes as it would allow AEMO to be more responsive to unexpected variations in operating conditions. However, giving AEMO more discretion and flexibility about how to declare LORs needs to be balanced against the potential costs.

  The Commission has considered the impact the rule change would have on the likelihood of LORs being declared and in particular, the consequences for the notices and their reflection of the risk of load shedding in the case of an increase in the number of declarations. The Commission has also considered the implications for the use of intervention mechanisms. For example, AEMO can use a declaration of a LOR2 as a trigger for the RERT.[25] In assessing the rule change request, the Commission has had regard to the trade-off between the potential benefits in terms of improved reliability and the potential costs of higher interventions. Such a trade-off is a core feature of the reliability frameworks in the NEM.

2.3 Summary of reasons

The draft rule made by the Commission is attached to and published with this draft rule determination. The key features of the draft rule are:

- the removal of the three levels of contingency-based LOR definitions descriptions from the NER and replacement with a high-level description of lack of reserve condition[26]

- the introduction of an obligation for AEMO to develop and publish reserve level declaration guidelines that set out how AEMO will determine a lack of reserve condition[27]

- minimum requirements for the guidelines,[28] including obliging AEMO to declare at least three probability levels to be called LOR1, LOR2 and LOR3[29]

25 See the Reliability Panel's RERT guidelines http://www.aemc.gov.au/getattachment/98a21db3-9e02-4e7e-9626-8973f0f45e5c/Reliability-and-Emergency-Reserve-Trader-(RERT)-Gu.aspx.

26 See clause 4.8.4(b) of the draft rule.

27 See clause 4.8.4A(a) of the draft rule.

28 See clause 4.8.4A(b) of the draft rule.

29 See clause 4.8.4A(b)(3) of the draft rule

- the introduction of the factors that AEMO must take into account when assessing how to declare an LOR[30]

- a requirement for AEMO to use an amended version of the rules consultation procedures when amending the guidelines.[31]

As per AEMO's request in its submission to the consultation paper, the final rule, if made, will take effect on 9 January 2018 in order to avoid implementing a new framework during the holiday period, which is a period of low demand.

The draft rule is largely the same as the proposed rule. The differences between the draft rule and the proposed rule are limited to the following changes:

- Consultation procedure: the draft rule contains a more transparent and inclusive consultation procedure by obliging AEMO to consult more broadly (i.e. with the public) rather than with a specific group of stakeholders. The rule does not preclude AEMO from reaching out to a specific group of stakeholders in addition to the public consultation procedure should it choose to. The draft rule also explicitly allows stakeholders to request AEMO to amend the guidelines. In particular, the draft rule uses an amended version of the rules consultation procedures, which is shorter.[32] This is discussed in more detail in chapter 4.

- Involuntary load shedding: in its submission to the consultation paper, AEMO proposed to replace all instances of "*involuntary load shedding*" as originally suggested in its rule change request with "*load shedding* (other than *interruptible load*)".[33] This is because involuntary load shedding, as defined in NER Chapter 10, includes one type of interruptible load, automatic under-frequency load shedding and AEMO does not intend to declare LORs as a result of under-frequency load shedding. The Commission agrees that under-frequency load shedding should not be included. However, the Commission decided to unitalicise the word "involuntary" in the draft rule, which has the effect of applying the ordinary meaning of the word and to remove the defined term from chapter 10 of the NER. This is discussed in more detail in section 6.1.

- Transitional arrangements: the draft rule incorporates draft transitional rules to require AEMO to publish the guidelines by 9 January 2018 and to exempt AEMO from the obligation to carry out consultation using the procedure set out in the draft rule when it makes the guidelines for the first time.

- A minimum of three LOR levels: the draft rule requires AEMO to declare at least three LOR levels (an increase from a minimum of two levels proposed by AEMO) to be called LOR1, LOR2 and LOR3 to reflect stakeholders' comments on how they use the framework, including that they use all three LOR levels.

30 See clause 4.8.4A(c) of the draft rule.

31 See clause 4.8.4A(e) of the draft rule.

32 The rules consultation procedures are set out in clause 8.9 of the NER.

33 AEMO, consultation paper submission, pp.2-3.

Having regard to the issues raised in the rule change request and during the consultation process, the Commission is satisfied that the draft rule will, or is likely to, contribute to the achievement of the NEO for the following reasons:

- The new LOR framework will improve the way that LORs are declared. The Commission expects that the new framework will more accurately predict the risk of load shedding which will lead to more efficient outcomes on short-term reserves and reliability. A declaration under the new framework will more accurately reflect the risk of load shedding, which will improve confidence of the market and improve the ability of participants to manage risks.

- The draft rule will improve the meaningfulness of the notices in informing the market of LOR conditions as they will be more accurate and improve the efficiency of the operation of the LOR declaration framework. The new framework will minimise instances of non-declarations of forecast LORs that should have been declared, thereby promoting better market responses, for example, by providing enough warning to generators that there may be a shortfall. The new framework may also lead to more LORs being declared - however, since these will be declared more accurately, there will be an increase in the possibility of a market response, which could minimise the risk of interventions.

- The new LOR framework is also likely to improve transparency of how LORs are declared. The current framework is limited to credible contingencies and the concept of the largest generating unit, which is determined by AEMO and may not be accessible to all participants. Under the new framework, the methodology for declaring LORs will be consulted on and published in the guidelines. Updates to the methodology will also be consulted on. This will improve transparency and give stakeholders a chance to have input in the framework.

- The Commission is satisfied that the benefits flowing from the flexibility offered by the new LOR framework outweigh the costs. The flexibility offered by the new framework will give the opportunity for AEMO (in consultation with stakeholders) to assess and improve the model on a regular basis, which will further improve the accuracy and usefulness of LOR declarations. The guidance in the NER around what AEMO will be required to take into account within the model will promote transparency and allow stakeholders to understand the framework.

LORs are one of the numerous components of the current reliability framework in the NEM, a framework which, through the contract and spot markets, drives investment in, and operational outcomes to achieve reliability in the NEM with the long-term interest of consumers at the core. Improving LORs means improving the decisions that market participants make in relation to reliability as they will have a more accurate picture of how tight the demand-supply balance is in the short term.

3 Overall framework

This chapter discusses the overall LOR framework and issues identified in the rule change request in more detail, specifically:

- the problem that AEMO is seeking to address through this rule change request
- whether or not a rule change request is required
- the balance between what is included in the NER and in the guidelines
- implications of the changes.

3.1 The problem that AEMO is seeking to address

3.1.1 AEMO's views

AEMO considers that the concept of credible contingencies no longer represents an accurate risk of load shedding since forecast errors that are completely unrelated to contingencies now occur frequently, for example, short-term demand and supply forecast errors in extreme conditions. In some instances, these can even be larger than the largest credible contingency. These non-contingency based variations occur as a result of:[34]

- short-term grid demand forecast error, particularly during extreme hot weather, which is in turn affected by small errors in weather forecasts
- short-term large-scale wind and large-scale solar generation forecast error
- widespread partial availability reductions in thermal generation during extreme weather conditions.

AEMO notes that non-contingency based deviations were the main cause of reserve deterioration on 8 February 2017 in South Australia.[35] As a result of a rapid decline in reserves that was unanticipated, the short-term PASA process did not trigger any forecast LOR2s. A LOR2 was first declared at 17:13, followed by load shedding 50 minutes later. AEMO stated that the LOR2 declaration occurred too late to implement intervention options that could have avoided the need for load shedding and there was not enough time for a market response either due to inadequate warning of the risk of load shedding.

AEMO also notes that there have been other instances of significant deterioration in reserves, most notably on 12 February 2017 in Queensland due to unforeseen

34 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, p.2.

35 See: http://www.aemo.com.au/-/media/Files/Electricity/NEM/Market_Notices_and_Events/Power_System_Incident_Reports/2017/System-Event-Report-South-Australia-8-February-2017.pdf.

limitations unrelated to contingencies.[36] In that instance, there were rapid changes in both demand and supply forecasts. However, load shedding did not occur.

AEMO states that all NEM regions frequently experience the identified forecast errors, and that, at times, their collective size may be larger than the largest traditional generation credible contingency event. At the same time, the largest credible contingency has also changed in size over the years. In South Australia, for example, it has declined in size following the closure of Northern power station, while the underlying risk of forecast error has risen.[37]

3.1.2 Stakeholders' views

All stakeholders are supportive of AEMO improving the accuracy of the LOR framework in principle, but some raise concerns around the level of evidence associated with AEMO's rule change request, as discussed below in section 3.2.

A number of stakeholders[38] request more evidence and suggest that AEMO make public the analysis that shows that the new framework would have led to better outcomes had it been in place in the past. EnergyAustralia notes that AEMO has not sufficiently outlined a need for the proposed rule change.[39] Similarly, the Australian Energy Council considers that there is a lack of evidence to demonstrate that the current NER would have materially influenced previous shortfalls and notes that evidence should be provided to substantiate this proposition.[40]

Pacific Hydro notes that while it is true that power sources are changing, the principles regarding how a power system is operated have not changed, which implies that the LOR framework is fit-for-purpose.[41]

3.1.3 Commission's draft analysis and conclusions

The Commission, like stakeholders, is supportive of AEMO improving the accuracy of its forecasts, in this case, in relation to the accuracy of the LOR framework.

Further, the Commission agrees that the credible contingency based LOR framework is no longer fit for purpose.

The power system is changing and the Commission considers that the existing, deterministic based framework for declaring LOR conditions as set out in the NER is no appropriate. AEMO's analysis has shown that significant, rapid deteriorations in short-term power system conditions now occur due to non-contingency based

36 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, pp.18-19.

37 Ibid. p. 3.

38 Submissions to consultation paper: Origin, p. 2; Australian Energy council, p.1.

39 EnergyAustralia, submission to consultation paper, p. 2.

40 Australian Energy Council, submission to consultation paper, p. 1.

41 Pacific Hydro, submission to consultation paper, p. 3.

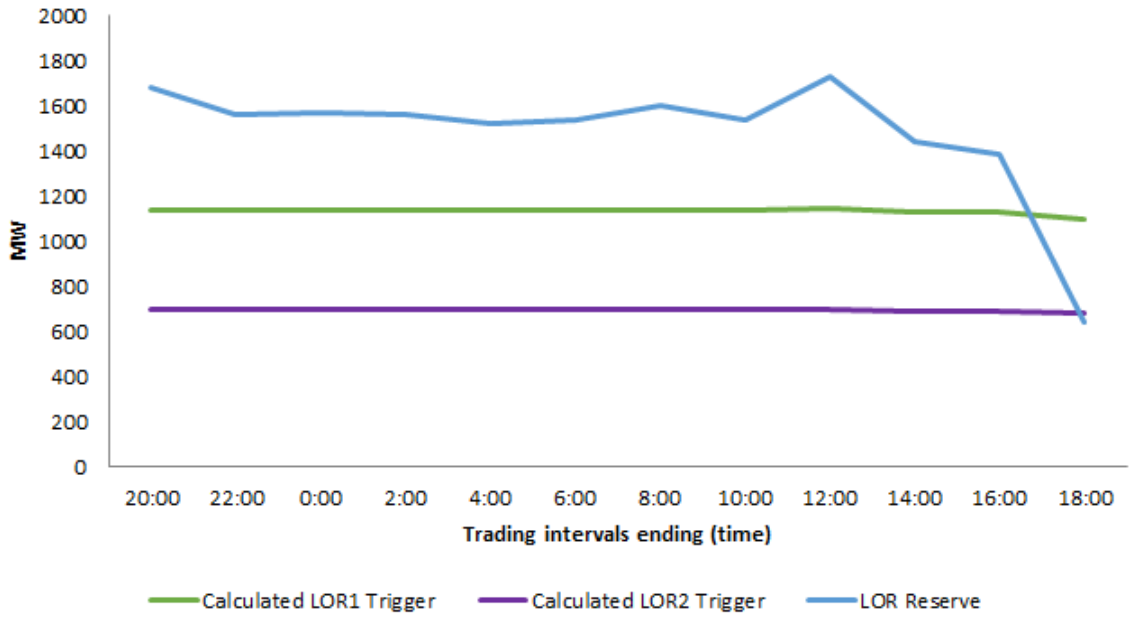
variations, particular in extreme temperatures which can affect both variable renewable energy as well as thermal generation.[42] Similarly, the retirement of large thermal generation units has meant that these variations are sometimes larger than the loss of the largest unit in a particular region would be.

The energy demand profile has also changed over the past two decades, with demand growth flattening over recent years. Demand profiles are expected to change further as a result of technology and the growth in distributed energy resources, further impacting potential variations.

These changes mean that the concept of a credible contingency event alone is becoming less relevant in managing short-term reserves. While credible contingency events are still affecting reserve levels, demand and supply forecast (or availability) errors can sometimes now be larger than the largest credible contingency. Rapid unexpected declines in supply or unexpected increases in demand, sometimes occurring simultaneously, translate to rapid, unexpected decreases in reserves that, in some instances, are larger than the size of the largest credible contingency event.

For example, analysis of pre-dispatch horizon data[43] for the 18:00 trading interval on 12 February 2017 in Queensland, which was an extreme weather day with hot temperatures. On that day, reserves were above both LOR1 and LOR2 thresholds but rapidly dropped below both thresholds unexpectedly, i.e. pre-dispatch was forecasting an adequate level of reserves for the 18:00 trading interval until just after 4pm on the day, as shown in Figure 3.1.

Figure 3.1 Rapid deterioration in reserves



42 We understand from AEMO that weather forecasts, are, by definition probabilistic in nature.

43 Pre-dispatch horizon data is available to the public on AEMO's website, https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Data/Market-Management-System-MMS/Pre-dispatch

Analysing pre-dispatch data shows that the decline in reserves was unrelated to any credible contingency events. Instead, it was primarily due to:

- an unexpected rise in demand (just under 300 MW)
- an unexpected decline in scheduled generator availability (just over 700 MW).

The result, about a 1000 MW decline in reserves, was larger than the LOR2 trigger (which was about 700 MW), that is, the largest credible contingency event.

In this example, deteriorations in expected demand and expected generator availability resulted in the decline in reserves. Deviations can occur as a result of unexpected changes in either demand or supply, or both variables. When it comes to supply, these deviations can be the result of an unexpected decline in generator availability as bid by scheduled generators, or due to forecasting errors of wind and solar generation.

The Commission recognises the concerns raised by stakeholders requesting further evidence about the problem. Indeed, in some respects, the Commission has benefited from discussions with AEMO staff about the problem, and materiality of it throughout the progression of the rule change request. Recognising these concerns, the Commission hosted a teleconference with interested stakeholders and AEMO, the purpose of which was for AEMO to provide more information on what it considers the problem is, as well as its new methodology that will be used in the solution.

The teleconference was well-attended (approximately 30 stakeholders attended) with extensive discussion. The Commission also directs stakeholders to AEMO's submission to the consultation paper for this rule change request which also set out further information on the problem, and proposed solution, as well as to the draft guidelines published on AEMO's website as discussed in chapter 1.

3.2 Is a rule change required?

3.2.1 AEMO's views

As a result of the growth in forecast errors (discussed above) as well as recent reports focussing on the strength of its forecasting,[44] AEMO has been looking at ways to improve its power system operation. In order to address the problem set out above it wants to move to a more sophisticated risk warning system based on the underlying probability of involuntary load shedding due to all causes, including forecast errors, rather than one based on generator contingencies only.

AEMO would like to have a flexible system that enables the probability measures to evolve with the changing market. However, it considers that the existing rules for

44 Recommendation 1.1 of the Finkel Panel's Independent Review into the Future Security of the National Electricity Market, relates to forecasting improvements related to summer 2017-18; Australian Energy Regulator's report into the events of 8 February 2017 also identified that more accurate forecasts of demand may have been provided by AEMO.

LOR1 and LOR2 are inextricably linked and limited to identifiable contingencies and are therefore incompatible with such an approach. It states that the current definitions of LORs are inflexible and restrict AEMO's ability to use more sophisticated probabilistic risk assessment techniques to trigger LORs. AEMO states that power system risk assessment, particularly one that uses probabilistic modelling, such as the one it will use for the new LOR framework, is very difficult to express within the legal framework of the NER.[45]

Beyond the difficulties posed by the current framework in terms of incorporating a probabilistic approach, AEMO also identified a number of issues with the LOR framework, including that:[46]

- participants find it difficult to understand the risk (i.e. the risk of load shedding) implied by an LOR declaration
- there is a lack of transparency in exactly what contingencies AEMO will contemplate and what tools it will use to assess the risk.

3.2.2 Stakeholders' views

Some stakeholders disagree with AEMO's assessment that a change to the current NER clause 4.8.4 is required in order for AEMO to implement the changes it is proposing, that is to move to a more probabilistic techniques. In particular, Pacific Hydro, ERM Power and EnergyAustralia believe that the NER allows AEMO to implement the proposed changes through existing clauses.

Specifically, Pacific Hydro and ERM Power consider that AEMO could use the following clauses to implement the changes:[47]

- clause 3.7 projected assessment of system adequacy (PASA)
- clause 3.8.20 pre-dispatch schedule
- clause 3.9.3.D AEMO's Reliability Standard Implementation Guidelines
- clauses 4.2.3 credible and non-credible contingency events and protected events, 4.2.3A re-classifying contingency events and 4.2.3B criteria for re-classifying contingency events.

EnergyAustralia[48] considers that AEMO currently has discretion under the rules to adjust the size of credible contingencies under clause 4.2.3 and that AEMO could broaden the definition of a credible contingency beyond the loss of the largest

45 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, p. 6.

46 Ibid. p. 6.

47 Submissions to consultation paper: Pacific Hydro, p. 2; ERM Power p. 1.

48 EnergyAustralia, submission to consultation paper, p. 1.

generating unit to include loss of generation from variable renewable energy generation.[49]

Pacific Hydro and ERM Power[50] draw comparisons with AEMO's recent changes to the medium-term PASA process through the Reliability Standard Implementation Guidelines review[51] that AEMO undertook without requiring a rule change. They, therefore, believe that AEMO should move to a more probabilistic approach within the short-term and pre-dispatch PASA.

3.2.3 Commission's draft analysis and conclusions

The Commission does not agree with stakeholders that a rule change request is not required in order to implement these changes. The existing NER framework for LOR conditions specifically links to deterministic conditions and so these are what AEMO *must* take into account when declaring LOR conditions.

AEMO could continue to use this existing deterministic framework, but also implement a more probabilistic framework alongside it. However, this could result in the undesirable situation where the forecast errors could indicate that there may be a lack of reserves, but since the deterministic approach would not, AEMO would not be able to declare LOR conditions to the market. A separate notice could be provided to participants but this would likely be confusing. This would lead to a decrease in transparency, rather than an increase.

The Commission therefore considers it is preferable for AEMO to change the lack of reserve framework by requesting a rule change to that framework, rather than make changes to a number of its procedures and guidelines that are not directly linked to the framework, which could increase confusion and decrease transparency for participants. For example, the Reliability Standard Implementation Guidelines is only linked to a low reserve condition in the NER which is typically a medium-term PASA process, or reliability in the longer term. The LOR framework is limited to short-term reliability. Furthermore, the low reserve condition in the NER is already expressed in a generic manner, in particular, that the condition is to be declared in accordance with the Reliability Standard Implementation Guidelines,[52] which has made recent changes to the medium-term PASA possible. By contrast, the LOR framework, as set out in the relevant provisions of the NER, necessarily requires a deterministic approach and would continue to do so without a rule change.

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49 Pacific Hydro and ERM Power echo EnergyAustralia's comment and suggest that AEMO has the ability to change the size of contingencies in accordance with clauses 4.2.3, 4.2.3A and 4.2.3B. See: submissions to consultation paper: Pacific Hydro, p. 3; ERM Power p. 2.

50 Submissions to consultation paper: Pacific Hydro, p. 3; ERM Power p. 2.

51 See https://www.aemo.com.au/Stakeholder-Consultation/Consultations/Reliability-Standard-Implementation-Guidelines.

52 See clause 4.8.4 (a) of the NER.

It is also worth noting that the consultation paper noted that the definition and redefinition of credible contingencies are outside of the scope of this rule change. Credible contingencies are broader than the lack of reserve framework and are important to power system security. Redefining credible contingencies for the purpose of the LOR framework would have a significant impact on other parts of the NER and therefore is beyond the scope of this rule change. For example, forecast errors or reductions in generation due to weather patterns affecting wind and solar farms are not credible contingencies as currently understood by participants. Changing the definition of credible contingency events to include those events would have a significant impact on power system security operations, including the frequency operating standards. As a result, the Commission is assessing the credible contingency framework holistically in its *Reliability Frameworks Review* instead.

Given that the Commission considers that a rule change is required to resolve the stated problem and to make sure there is sufficient transparency in the framework, the draft rule:

- removes the three-level contingency-based LOR descriptions from the NER and replaces them with a single high-level description of lack of reserve condition, namely that AEMO will declare a lack of reserve condition when it determines that the probability of involuntary load shedding is, or is forecast to be, more than remote, according to the reserve level declaration guidelines

- requires AEMO to make and publish the reserve level declaration guidelines, which will set out how AEMO will determine LORs

- requires AEMO to declare at least three LOR levels (to be called LOR1, LOR2 and LOR3).

This rule implements a solution to the problem that AEMO has identified by giving AEMO the flexibility to declare LORs using a more comprehensive methodology which will take into account a wide range of risk factors of involuntary load shedding, and not just the largest credible contingency. The new framework contained in the NER provides principles and guidance to make sure that the transparency of the LOR framework is clear.

The draft rule introduces the reserve level declaration guidelines, which will be a separate set of guidelines created for the purpose of declaring LORs only. This is a more transparent and accessible process than what was proposed by some stakeholders, that is to amend the reliability standard implementation guidelines that are unrelated to the LOR framework.

3.3 Balance between the NER and guidelines

3.3.1 AEMO's views

AEMO's proposed LOR framework would effectively transfer the descriptions of what each LOR levels is out of the NER and into a guideline, to be maintained and amended by AEMO in accordance with a process prescribed in the NER.

Specifically, the NER would specify that the guidelines must:

- describe how AEMO continually assesses the probability of capacity reserves being insufficient to avoid involuntary load shedding given reasonably foreseeable conditions and events
- describe how that assessment applies in relation to different periods of time
- specify two or more probability levels, at which AEMO will declare a corresponding lack of reserve condition in relation to a specified period of time, indicating an increasing probability of involuntary load shedding
- be reviewed at least once every four years.

AEMO also proposes that the NER would contain a set of principles relating to its proposed methodology for declaring LOR conditions. In particular, the NER should require AEMO to take into account the following when using the probability assessment for declaring LORs:

- actual and forecast power system and environmental conditions or similar conditions
- the likelihood of the occurrence and impact on the power system of events that are foreseeable in nature but unpredictable in timing
- prudent allowances for forecasting error.

AEMO states that the guidelines would allow it to develop a risk assessment technique fit-for-purpose for the evolving changes occurring in the NEM, and continue to refine that technique as necessary to respond to ongoing changes. AEMO also states that a detailed description of its methodology for its power system risk assessment, particularly one that uses probabilistic techniques, is very difficult to express within the legal framework of the NER.[53]

AEMO recognises that the industry is familiar with the current three-tiered approach and therefore intends to similarly categorise its initial LOR assessment levels.[54]

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53 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, p.6.

54 AEMO discusses this in a number of areas in the rule change request, including on pp. 7-8 and it is also indicated in its illustrative guidelines on pp. 8-9. See AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017.

Therefore, at least initially, AEMO intends to similarly categorise LORs under the new framework i.e. having three categories that are broadly similar to the current contingency-based levels.

3.3.2 Stakeholders' views

Level of prescription in the NER

Stakeholders' views on the level of prescription relating to the method and process that should be set out in the NER are mixed. Some stakeholders are broadly supportive of introducing a high-level framework in the NER with the details being moved to guidelines.[55] For example, Energy Networks Australia supports moving the details of LOR declarations out of the NER as long as there is transparency and explicit guidance around consultation and triggers for review.[56]

In contrast others raise concerns about the level of detail that is being moved to the guidelines as discussed next. AusNet Services and EnergyAustralia[57] consider that the NER should contain more principles than currently proposed about both the methodology as well as the content of the guidelines.

Many stakeholders express concern that removing the definitions from the NER would lead to reduced transparency. ERM Power and Pacific Hydro consider that the current NER definitions of LORs are clear, and well understood by industry, and moving them to guidelines would reduce transparency.[58] Stanwell is also concerned about transparency[59] while Origin notes that certainty of current arrangements in the NER for market participants is more preferable.[60] The Australian Energy Council considers that the proposed definitions are imprecise and open to interpretation.[61] In its supplementary submission, the Australian Energy Council reinforces this view and recommends that the forecast uncertainty measure (FUM)[62] (and any other new variable) be set out in the NER rather than left to AEMO guidelines.[63]

55 Submissions to the consultation paper: PIAC, p. 1; Energy Networks Australia, p. 4.

56 Energy Networks Australia, submission to consultation paper, p. 4.

57 Submissions to consultation paper: EnergyAustralia p. 2; AusNet Services p. 2.

58 Submissions to consultation paper: Pacific Hydro, p. 3; ERM Power p. 2.

59 Stanwell, submissions to consultation paper, p. 5.

60 Origin, submission to consultation paper, p. 2.

61 Australian Energy Council, submission to consultation paper, p. 1.

62 The FUM is the number of MW representing the quantity of error in reserves for which AEMO determines, at a certain confidence level, that the error will not exceed this value. In other words, it is the size of the adjustment to be made based on AEMO's modelling of reserve errors. For more information, please see AEMO's draft guidelines. When short-term reserves fall below FUM (when the FUM is greater than the largest credible contingency), AEMO will make an LOR2 declaration.

63 Australian Energy Council, supplementary submission to consultation paper, p. 2.

Maintenance of deterministic triggers

Other stakeholders considered that the existing deterministic triggers should remain, with the probabilistic triggers added. For example, EnergyAustralia supports the retention of the current classifications for lack of reserves in the NER (LOR1, LOR2 and LOR3) even if these classifications are modified.[64] Stanwell considers that the deterministic triggers should remain in the NER with AEMO provided with additional flexibility to develop guidelines in relation to other reserve notifications.[65]

The Australian Energy Council, in its supplementary submission, notes that it does support the introduction of the FUM but that it believes that how it is used and its effect on calculating LORs should be included within the NER.[66] Its supplementary submission also contains proposed drafting which suggests maintaining the existing deterministic triggers in the NER, with additional clauses added into the NER to make allowance for the FUM.[67]

In its submission to the consultation paper, AEMO clarifies that it intends to retain three LOR levels, LOR1, LOR2 and LOR3 in the initial version of the guidelines, that LOR3 will be unchanged from the its current definition, but LOR1 and 2 will be significantly altered. However, LOR1 and LOR2 will still be of the size of the two largest single credible contingencies and the largest single credible contingency respectively as a minimum, similar to the current framework.[68]

3.3.3 Commission's draft analysis and conclusions

Level of prescription in the NER

The Commission agrees with stakeholders that in order to have an effective LOR framework it is important that the NER provide sufficient guidance so that stakeholders understand the LOR framework, and how AEMO will assess them. However, the Commission also agrees with AEMO's assessment that a probabilistic approach is difficult to express in the NER and so the details of this are best left to guidelines. Indeed, since the approach involves a probabilistic assessment it would not, by definition, be possible to prescribe the relevant values in the NER since they will change periodically. However, the framework in the NER can set out *factors* or *guidance* that must be followed by AEMO in its method and process when assessing LOR conditions.

The Commission considers that draft rule provides sufficient clarity and guidance as to AEMO's responsibilities when declaring LORs. The draft rule sets out what the reserve

64 EnergyAustralia, submission to consultation paper, p. 2.

65 Stanwell, submission to consultation paper, p. 5.

66 Australian Energy Council, supplementary submission to consultation paper, pp 1-2.

67 Ibid. p. 4.

68 AEMO, submission to consultation paper, p. 5.

level declaration guidelines must include and what their purpose is,[69] including that they must describe how AEMO continually assesses the probability of capacity reserves being insufficient to avoid involuntary load shedding given reasonably foreseeable conditions and events.[70] In other words, AEMO must describe its methodology (that is, the probability assessment) in the guidelines.

The draft rule also sets out what AEMO must take into account when developing the probability assessment or methodology, as described in the reserve level declaration guidelines, specifically:[71]

- actual and forecast power system conditions and environmental or other similar conditions
- the likelihood of the occurrence and impact on the power system of events that are foreseeable in nature but unpredictable in timing
- a prudent allowance for forecasting error.

The second dot point includes a number of significant events that may affect the power system, which could include credible contingency events and the Commission considers that this is sufficient guidance for AEMO to include this when creating and amending the methodology for declaring LORs. The last dot point requires AEMO to take into account forecasting errors, which, as it has noted in its rule change request, can now be larger than the size of the largest credible contingency. These factors represent enough prescription to provide certainty about how AEMO will declare LORs and yet are not too prescriptive so as to hinder flexibility.

The Commission considers that being more prescriptive, for example, by creating new clauses around the definition of a FUM (such as suggested by the Australian Energy Council) beyond what the draft rule currently does would not be desirable for the following reasons:

- The suggested changes simply replicate what AEMO has committed to doing in its first version of the guidelines. Therefore, in practical terms, implementing this proposal would not have any impact on the first version of the guidelines.
- Moreover, it would impinge on flexibility – which would go against the overall intent of the rule change request – requiring a rule change to move towards a probabilistic framework in the future.
- In addition, it potentially could create confusion for stakeholders as to what approach would apply.

69 See clause 4.8.4A(b) of the draft rule.

70 See clause 4.8.4A(b)(1) of the draft rule.

71 See clause 4.8.4A(c) of the draft rule.

Maintenance of deterministic triggers

In addition to the above, the Commission acknowledges stakeholder concerns around removing the current three-tiered approach for LOR conditions from the NER. In response, AEMO has noted a number of times, in numerous forums, that it intends to keep the current contingency-based framework as a minimum: in its rule change request, in its submission to the consultation paper and at the public stakeholder forum. The Commission understands, as shown in the draft guidelines published alongside this draft determination, that AEMO intends to keep each of the three LORs as they presently are at a minimum. For example, LOR2 will, at a minimum, continue to reflect the risk of involuntary load shedding arising from insufficient reserves to cover the loss of the largest generating unit. The adjustment made based on forecast errors and AEMO's modelling will be in addition to this minimum level.

However, notwithstanding the above, the Commission has considered whether it is possible to have the new framework as well as maintaining the existing credible contingency framework as a minimum in the NER, as some stakeholders have suggested. The Commission considers that it is not practical or appropriate to maintain the existing levels as a minimum in the NER since:

- This would require keeping the existing deterministic definitions, but adding in new clauses relating to the probabilistic assessment. Such an approach would likely create more confusion for stakeholders since they would be unclear as to what approach would apply or not i.e. would the deterministic criteria be relevant, or what a more probabilistic assessment apply.

- This could potentially create additional costs for AEMO as it may have the unintended consequence of obliging AEMO to maintain two separate systems if expressed in the NER in such a manner.

- This would go against the overall intent of the rule change request, which is to move to a more probabilistic declaration framework. It would not be future-proofed and would require subsequent rule changes to effectively address problems that the Commission has already concluded are valid.

- Prescribing both frameworks in such a manner into the NER would be convoluted and would not achieve anything in practical terms for this summer and for the first version of the guidelines. The Commission understands that AEMO intends on keeping the credible contingency framework as a minimum in its declaration of LOR conditions for this summer.

It is also worth noting, that conceptually, since AEMO's proposed forecast uncertainty measure considers the probability of a range of variables moving unfavourably – including scheduled generator availability bids – this measure already includes the concept of credible contingency events or the loss of the largest generating unit. In other words, it factors in the probability that a (typically the largest) generator's availability would decrease from its available capacity to zero i.e. a credible contingency event.

The Commission also notes that AEMO has committed to maintaining the existing definitions as a minimum as well as declaring three LORs in the medium-term. The Commission considers this should provide stakeholders with sufficient confidence that the existing approach will be maintained for the summer. Any changes to this approach would require a change to the reserve levels declaration guidelines, which would in turn require consultation with stakeholders.

However, in response to stakeholder feedback, the Commission has determined that the draft rule should *oblige* AEMO to specify at least *three* LOR levels indicating an increasing probability of involuntary load shedding, as opposed to AEMO's proposed rule, which specified at least two levels. Furthermore, the draft rule also obliges AEMO to call these three levels LOR1, LOR2 and LOR3, to maintain consistency with the current framework that stakeholders understand as well as keeping a naming convention that is familiar to stakeholders.

If the final rule is made to reflect the draft rule, changing the number of LOR levels would require a rule change. While the draft rule does not specify each individual LOR level and their corresponding size, since this will be developed by AEMO in its methodology, the NER does contain guidance on this methodology (as discussed above), and the Commission considers that increasing the minimum to three levels more accurately reflects the current framework, and the way that participants use the framework.

3.4 Implications of changes

3.4.1 AEMO's views

AEMO considers that the flexibility and discretion offered by the new methodology would make it more responsive to the drivers of change occurring in the NEM, such as the impact of an increasing penetration of intermittent generation. AEMO considers that the benefits would be in the efficiencies gained in more accurately declaring LORs and would give participants a more accurate picture of the risk of load shedding. AEMO notes that:[72]

- if the risks of load shedding are under-estimated (LORs not declared in time or at all), then market responses may be inadequate and load shedding is more likely to occur
- if risks are over-estimated, then they may lead to unnecessary interventions the costs of which would be recovered from the market.

In its rule change request, AEMO noted that under the new framework, there could be more frequent declarations initially and that AEMO would mitigate this by selecting an

72 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, p. 6.

appropriate confidence interval for the errors, that trades off these costs against the benefits of reduced load shedding.[73]

3.4.2 Stakeholders' views

Stakeholders are primarily concerned about the impact of the new framework on interventions carried out by AEMO. The concerns are two-fold:

- Some stakeholders are concerned about the amount of discretion that the new framework would give AEMO in terms of how it declares LORs
- Others are concerned that, regardless of discretion, the new framework would lead to more LORs being declared and therefore more interventions, which carry a cost.

ENGIE notes that the proposed new definition leaves AEMO with a considerable amount of discretion, particularly with regard to what constitutes a "more than remote" probability.[74] Powerlink goes a step further in stating that the new framework will lead to a situation where AEMO will be able to set its own trigger levels at which it will intervene in the market.[75]

The Australian Energy Council states that the new framework will almost certainly lead to an increased frequency of market intervention by AEMO through the RERT or directions, which will have a distorting effect on the market and generators in particular, by changing their return expectations and contracting profiles.[76] It also notes that market intervention will lead to the more frequent imposition of intervention pricing, distorting market outcomes even further. EnergyAustralia also expresses concern around the cost to consumers and market distortions.[77]

In a supplementary submission, the Australian Energy Council reinforced the view that the implication of the changes would mean that AEMO will have the ability to intervene in the market at will and with little oversight.[78]

Energy Networks Australia note that there is nothing specific in draft rule proposed by AEMO as to when it may seek to intervene nor does it provide any explicit guidance, nor a potential floor that stakeholders can understand and act upon, which adds uncertainty about when and how an intervention would occur.[79]

In its submission to the consultation paper, AEMO notes that its modelling to date has identified the following inputs as being the most relevant to the error in reserves:

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73 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, p. 14.

74 ENGIE, submission to consultation paper, p. 2.

75 Powerlink, submission to consultation paper, p. 2.

76 Australian Energy Council, submission to consultation paper, p. 2.

77 EnergyAustralia, submission to consultation paper, p. 2.

78 Australian Energy Council, supplementary submission to consultation paper, p. 1.

79 Energy Networks Australia, submission to consultation paper, p. 2.

- forecast time ahead of present
- forecast temperature
- forecast unconstrained intermittent generation
- current operational demand error.

In its submission to the consultation paper, AEMO notes that early studies suggest that the new LOR framework, based on a 96%trigger level,[80] this would only marginally increase the number of days with declarations.[81] AEMO also states that it intends to prepare the forecast uncertainty measure (FUM) to a maximum of 48 hours ahead of the present, and hold the value fixed from that point to the end of the short-term horizon (seven days).[82]

3.4.3 Commission's draft analysis and conclusion

The Commission has considered what the likely effects of moving to this framework are on the level of interventions in the market.

The Commission considers that while the new framework provides more flexibility for AEMO as to how to declare LORs, this is beneficial since it will result in more accurate declarations of LORs. The Commission is also satisfied that there is sufficient guidance contained in the draft rule to frame how AEMO will declare LOR conditions (or not). This flexibility allows AEMO to make use of more sophisticated and accurate risk assessment techniques, and provides AEMO with the flexibility to improve these over time in order to respond to drivers of change in the NEM as well as its own learnings.

The Commission notes AEMO's analysis that the growth in LORs would not be burdensome under the new framework as compared to the current framework. Its latest analysis, based on a 97% confidence interval for the FUM looking six hours ahead, shows how much the number of LOR declarations would have increased compared to a situation where the reserve levels are determined solely on the basis of the largest credible risks (i.e. FUM is zero in value). It finds that:

- the number of days on which LOR2 would have been declared would have risen from six to 12 days
- the number of days on which LOR1 would have been declared would have risen from 76 to 92 days.

However, a rise in LOR declarations does not automatically translate to increased *interventions*. Indeed, more accurate reporting of potential lack of reserve conditions

80 The 96% trigger level refers specifically to a 96% confidence interval for preparing the forecast uncertainty measure (FUM).

81 AEMO, submission to consultation paper, p. 4.

82 AEMO, submission to consultation paper, p. 4.

increases the possibility of a market response to such lack of reserves (since these will be more accurately reported) and so, could, *minimise* the risk of interventions.

Further, the draft rule introduces an inclusive and transparent consultation process for changing the guidelines. Stakeholders will be able to have their say and AEMO will be required to consider issues raised in submissions before amending the guidelines. The initial guidelines are also being consulted on alongside this draft determination.

While AEMO does use LOR2s in particular to trigger the RERT, it is not obliged to do so by the NER or by the RERT guidelines. Stakeholders, in particular, Energy Networks Australia, notes that there is nothing specific in AEMO's proposed rule as to when it may seek to intervene or any explicit guidance. The Commission notes that the intervention framework is separate from the LOR framework. There is currently nothing in the NER that prescribes how AEMO intervenes. Instead, AEMO is guided by principles set out in the *RERT guidelines*, made by the Reliability Panel; as well as the *Reliability Standard Implementation Guidelines*, made by AEMO and which are subject to the rules consultation procedures for amendments. It is, therefore, not appropriate to introduce a new prescriptive framework for intervention in the NER.

Furthermore, both the *RERT guidelines*, and the *Reliability Standard Implementation Guidelines* give AEMO guidance as to how it will intervene in the market, but allow for discretion as to when and how it will intervene. For example, the *RERT guidelines* state that AEMO *may* take into account a number of factors to procure reserves under the short-notice RERT, including LOR2s.[83] The *Reliability Standard Implementation Guidelines* set out how AEMO implements the reliability standard. While it is primarily used for medium-term outlooks, it does state how AEMO implements the reliability standard in the short-term. In particular, it states that AEMO *may* take action (i.e. through interventions) to restore the required reserve capacity if there is a LOR2 or LOR3.[84] In practice, AEMO will first seek a market response when a LOR2 is identified and will intervene as a last resort.

More generally, the Commission notes that in terms of the various intervention mechanisms available to it, the NER require AEMO to exercise these in a least-cost manner.[85] For example, AEMO can only procure the RERT in response to a predicted shortfall in reserves. To trigger interventions such as directions and the RERT, AEMO must take into account a number of factors, some of which are at its discretion.[86] This has not changed.

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83 See http://www.aemc.gov.au/getattachment/fcecc49d-d53c-4f89-8e37-4315596cd79b/RERT-Guidelines.aspx

84 See https://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/Electricity_Consultations/2017/MTPASA/Reliability-Standard-Implementation-Guidelines---MT-PASA-Final.pdf

85 See clause 4.8.9(b)(1) of the NER.

86 See clause 4.8.9(b) and clauses 3.20.2(b) of the NER.

In addition, the RERT also has provisions to make sure that AEMO chooses actions which have the least distortionary effect on the market and which are least cost to end consumers. NER clause 3.20.2(b) identifies two principles referred to as the RERT principles which AEMO must have regard to in exercising the RERT. These principles are:

- actions taken to be those which AEMO reasonably expects, acting reasonably to have the least distortionary effect on the operation of the market
- actions taken should aim to maximise the effectiveness of reserve contracts at the least cost to end use consumers of electricity.

In other words, the NER already gives AEMO some amount of discretion to trigger interventions, within the context of its reliability and security responsibilities in the NER, with these based on principles, rules and guidelines that are distinct from the LOR framework. Therefore, the Commission does not agree with stakeholders that the new framework will lead to more interventions, leading to more costs – there are already sufficient checks and balances on this in the NER.

4 Consultation to amend the guidelines

An area that attracted a significant amount of comment from stakeholders was on the proposed method to consult on amending the guidelines, after the initial version of the guidelines has been made.

The consultation around the initial guidelines (i.e. the ones that will be in effect if the final rule is made in accordance with the draft rule) are discussed in chapter 5. This chapter focuses on consultation on the guidelines on an enduring basis.

4.1 AEMO's views

In its rule change request, AEMO noted that it could amend the guidelines from time to time in accordance with a set of criteria set out in its proposed rule.

Under AEMO's proposal, the NER would specify that AEMO:

- must provide the proposed guidelines to generators, transmission network service providers (TNSPs), jurisdictional system security coordinators (JSSCs) together with an explanatory statement and an invitation to make submissions on the proposed guidelines
- must allow at least 15 business days for submissions in response to the invitation
- may hold conferences and information sessions, or undertake such other consultation on the proposed guidelines as AEMO considers appropriate
- must, in determining to make or amend the guidelines, consider any submissions made, and publish the reasons for its determination, a summary of each issue raised in those submissions that AEMO considers to be material, and AEMO's response to each such issue.

AEMO notes that its consultation procedure is not as broad ranging as the rules consultation procedure.[87] AEMO proposed not to use the rules consultation procedure because:[88]

- The proposed requirement for published guidelines is replacing a determination process that is currently opaque and not subject to consultation - that is, what constitutes a "credible contingency" or "loss of the largest unit" is currently not subject to consultation and stakeholders do not typically have visibility of how AEMO determines this.
- The subject of the guidelines will be of a technical nature derived from historical objective measurement. As such, the time and resource cost required of both AEMO and its stakeholders in undertaking a full rules consultation procedures is

87 The rules consultation procedures are set out in Rule 8.9 of the NER.

88 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, pp.9-10

not justified and could hinder the ability to respond in a timely way to new developments

- A rules consultation procedure requirement is inconsistent with the level of consultation used for several other procedures or guidelines of equal or greater significance and complexity under the NER, including the power system operating guidelines.[89]

4.2 Stakeholders' views

Most stakeholders raise concerns around the proposed level of consultation that would be required to amend the guidelines.

Nearly all stakeholders note that the proposed process is not inclusive enough, for example, Energy Networks Australia suggest that some load, governments, direct connect customers, as well as user and consumer groups should be included.[90] Public Interest Advocacy Centre (PIAC) considers that consumers and stakeholders other than those listed in the rule change proposal must also be included in this consultation, and that the process should remain transparent if deviating from the standard rules consultation procedures.[91] Stanwell suggest the addition of market customers, small generator aggregators and ancillary service aggregators.[92]

In addition, AusNet Services consider that participants should be able to request that AEMO reviews the guidelines.[93] In its supplementary submission, the Australian Energy Council's drafting proposes the use of the full rules consultation procedures and for the guidelines to be reviewed every two years, instead of the four years proposed by AEMO.[94]

4.3 Commission's draft analysis and conclusion

The Commission understands that AEMO would like more flexibility in amending the guidelines given the nature of the methodology it is planning on using to declare LORs and so has not proposed to use the full rules consultation procedures. However, the Commission considers that AEMO's proposed consultation process is too narrow.

Therefore, the Commission considers that a modified version of the rules consultation procedures should be used: giving AEMO flexibility, but providing stakeholders with further reassurance on the consultation method. This also reflects the fact that stakeholders commented that the rules consultation procedure framework is used quite broadly in the NEM and so is commonly understood.

89 See 4.10.1(a), reclassification criteria (4.2.3B(d)) and local black system procedures (4.8.12(e))

90 Energy Networks Australia, submission to consultation paper, p. 5.

91 PIAC, submission to consultation paper, p. 2.

92 Stanwell, submission to consultation paper, p. 5.

93 AusNet Services, submission to consultation paper, p. 2.

94 Australian Energy Council, supplementary submission to consultation paper, p. 3.

The draft rule therefore sets out an amended version of the rules consultation procedures to improve the flexibility of that particular procedure, consistent with AEMO's request. The amended rules consultation procedures to apply to the guidelines:

- excludes the requirement for AEMO to publish a draft report and conduct second-round consultations
- reduces the consultation period to from 25 to 20 business days.

The Commission considers that having only one round of consultation introduces flexibility into the process. Changing the consultation period to 20 days, an increase of five days on AEMO's proposal, allows additional time for stakeholders to respond.

Using the rule consultation procedures also means that AEMO is required to consult with more stakeholders than it identified in its rule change request. The Commission thinks this is particularly important since while the LOR declaration framework is technical in nature, it sits within the reliability framework in the NEM. Reliability, and in particular, both the costs of involuntary load shedding and the avoided costs of load shedding, are important to end consumers, and so all interested parties should have the opportunity to engage with changes to the guidelines. The Commission considers that this provides a more transparent and inclusive process in order to give all stakeholders who may have an interest in the LOR declaration framework a chance to engage with AEMO in the consultation process.

Using the rules consultation procedures should provide confidence that AEMO will be required to consult using a known and robust process.

In addition, the draft rule also introduces a clause that allows participants to request AEMO to amend the guidelines. This should address concerns that if stakeholders do not consider the guidelines to be fulsome or accurate, that they can request AEMO to review them in order to update them as the need arises.

The Commission does not consider that the guidelines should be reviewed every two years. As currently drafted, AEMO may amend the guidelines more often than four years if it wants to; and the draft rule specifies that stakeholders can request the guidelines to be amended. If stakeholders wanted the guidelines reviewed prior to the four years elapsing, they could request AEMO to do so.

5 Implementation

The substantive parts of the final rule, if made, would commence operation on 9 January 2018. The final rule would also contain transitional clauses, commencing on the date the rule is made, to require AEMO to make the guidelines by 9 January 2018. This short timeframe reflects the fact that the initial version of the guidelines is being developed in parallel with the assessment of this rule change request.

5.1 AEMO's views

In its rule change request, AEMO proposed that the new framework would replace the existing framework as of when the final determination and final rule is made.

AEMO noted that it is developing the initial set of guidelines concurrently with the AEMC's consideration of this rule change proposal and draft guidelines have been published alongside this draft determination. A transitional clause will be required to recognise that consultation on the first set of guidelines is likely to be more limited and largely undertaken prior to the AEMC's final rule determination.

5.2 Stakeholders' views

Many stakeholders express support for having the guidelines in place by summer and the flexibility around consultation required as a result, although ENGIE notes that an abbreviated consultation process is unlikely to deliver an improvement in terms of understanding and transparency.[95]

A number of stakeholders note that they wish to see the probabilistic framework as a trial or that it should be demonstrated to be more effective than the current framework before it is entrenched into the NER. Energy Networks Australia suggests the prospect of a trial of existing and new LOR arrangements for this summer.[96] Powerlink notes that it supports the AEMO proposal as an interim arrangement and as a part of a transition process.[97]

Stakeholders also want more detail on the methodology and content of the guidelines and have a number of questions as to how the new framework will work in practice. For example, AusNet Services want more information on how network constraints will be treated.[98] Stanwell is concerned that there has been no consideration given to a changeover, including manage data compatibility for participants.[99] In its supplementary submission to the consultation paper, the Australian Energy Council states that they would like to see more detail on AEMO's guidelines but note that it is

95 Energy Networks Australia, submission to consultation paper, p. 2.

96 Energy Networks Australia, submission to consultation paper, p. 4.

97 Powerlink, submission to consultation paper, p. 2.

98 AusNet Services, submission to consultation paper, p. 2.

99 Stanwell, submission to consultation paper, p. 2.

unavailable to the public until the draft determination is published.[100] It also considers, through its proposed drafting, that the initial guidelines should be subject to the rules consultation procedures and be in place by 31 October 2018.[101]

In its submission to the consultation paper, AEMO noted that it would like the implementation data of the rule to be 9 January 2018 in order to avoid implementation during the holiday period if the final rule is made on 19 December 2017.

5.3 Commission's draft analysis and conclusions

As noted earlier, the Commission understands AEMO's reasoning for wanting the new methodology to be in place for this summer and notes AEMO's suggested implementation date in its submission to the consultation paper. Therefore, the Commission agrees that the framework should be implemented as soon as possible.

Therefore, the Commission considers that the rule, if made, should come into effect on 9 January 2018. This allows AEMO to avoid rolling out a new framework during the holiday period and also allows AEMO to amend the guidelines to reflect any changes made in the final rule, should the final rule be made to require AEMO to publish guidelines.

The Commission notes stakeholder views that a trial could be held in order to increase learnings and that the guidelines should not be in place until next summer, that is, 2018-19. However, the Commission considers that it is important the framework is in place for this summer. AEMO has noted to the AEMC that the proposed framework is one of the key tasks that AEMO is conducting to prepare for this summer and that it responds to recommendation 1.1 of the Finkel Panel's Review - that is, forecasting improvements prior to 2017-18 summer.

Further, to have both frameworks operating in parallel would be too onerous an outcome for AEMO who would effectively have to operate two separate processes and frameworks. In particular, the Commission understands that should a trial take place while the existing framework remains in place, AEMO would need to create new fields in its IT system, which would require system changes for AEMO and participants.

To be effective, participants would need to engage with the system being trialled, i.e. AEMO would need to issue notices arising from the trial process. This could lead to confusing situations where both the trial and existing system would be issuing LOR notices. This could also lead to operational problems, for example, control rooms would be exposed to two numbers: a number indicating a probabilistic risk and a number relating to contingencies as per the current framework, which would create confusion.

In addition, the Commission understands that AEMO does indeed intend on continuing to collect data and information with regards to the LOR framework and this

100 Australian Energy Council, supplementary submission to consultation paper, p. 1.

101 Ibid. p. 3.

information will continue to be input into its model for improvements and so the benefits from the summer will not be lost. AEMO may well use the experience of this summer when amending the guidelines, after consulting with stakeholders; however, obliging AEMO to run two processes in parallel is not necessary, more over could result in increased confusion for stakeholders as to what process would apply.

The Commission understands that AEMO intends to run a brief period of trial operation to confirm that the new system is functional and AEMO has scheduled an internal trial between 1 December and 9 January. However, the Commission agrees that an extended period running in parallel with the existing framework is not warranted for the reasons noted above.

Therefore, the substantive parts of the final rule, if made, would commence operation on 9 January 2018. The final rule would also contain transitional clauses, commencing on the date the rule is made, to require AEMO to make the guidelines by 9 January 2018.

The draft rule includes the following transitional rule:

- AEMO must develop and publish the reserve level declaration guidelines by 9 January 2018

- AEMO is not required to comply with the consultation procedures set out in the draft rule when making the guidelines for the first time.

The Commission notes that there is no strong opposition from stakeholders for AEMO to make the guidelines by this summer given the risks likely to be faced by the NEM. In its submission to the consultation paper, AEMO provides additional information about is methodology and content of the guidelines, including how it will treat network constraints.

AEMO has published draft guidelines alongside this determination for consultation and stakeholders will have the opportunity to raise any concern with the guidelines with AEMO. The Commission is satisfied that the stakeholder workshop it hosted with AEMO in early October as well as AEMO publishing the guidelines for consultation alongside this draft determination have given, and will give, stakeholders the opportunity for feedback and improve transparency and understanding of what is being proposed.

The Commission notes that under the usual rule change process, typically the Commission will first make a rule requiring AEMO to make and publish guidelines, and then after the final rule is made, AEMO would develop the guidelines. Through the process used for this rule change, whereby AEMO has published draft guidelines during the rule change process, stakeholders are therefore being given more information about the precise content of the guidelines than they ordinarily would at this stage of the rule making process.

6 Other issues

In addition AEMO identified three other issues in its rule change request and submission to the consultation paper. These are discussed in this chapter.

6.1 Involuntary load shedding

6.1.1 AEMO's views

AEMO proposes to delete clauses 4.8.4 (b), (c) and (d), which currently provide contingency-based definitions of LOR1 and LOR2 and a prescriptive definition of LOR3 respectively and replace them with one high-level definition for lack of reserve, as follows:

> "when AEMO determines, in accordance with the reserve level declaration guidelines, that the probability of involuntary load shedding is, or is forecast to be, more than remote."

The defined term "involuntary load shedding" is an existing term defined in the Chapter 10 of the NER.

The defined term "involuntary load shedding" was also proposed in AEMO's initial proposed drafting for clauses 4.8.4A(b)(1) and 4.8.4A(b)(3).

6.1.2 Stakeholders' views

In its submission to the consultation paper, AEMO noted that the definition of the defined term, "involuntary load shedding" is broader than intended for the purpose of LOR declarations as it includes underfrequency load shedding.[102]

AEMO does not declare LORs when there is automatic under-frequency load shedding, which is a type of voluntary load shedding used to maintain power system security. Leaving the drafting as AEMO proposed in its rule change request would have the unintended effect of obliging AEMO to declare LOR conditions where there is a more than remote possibility of automatic under-frequency relays being activated, that is, under-frequency load shedding. Under certain conditions, under-frequency load shedding could occur even when there are excess capacity reserves, which means that AEMO would be required to declare a LOR even when reserves are not running low.[103]

In its submission to the consultation paper, AEMO proposes to delete the definition of "involuntary load shedding" from the NER and to replace "involuntary load

102 AEMO, submission to consultation paper, p. 2.

103 Ibid. p. 3

shedding" in the draft rule to "load shedding (other than interruptible load)"[104] which accurately reflects the type of load used in the assessment of LOR declarations. In addition, AEMO proposes to remove the definition from the NER as it is not used anywhere else in the NER.[105]

6.1.3 Commission's draft analysis and conclusions

Involuntary load shedding is currently a defined term in NER Chapter 10.[106] As currently defined, involuntary load shedding refers to uninterruptible loads - that is, loads that cannot be controlled by AEMO (that is, most end consumers would fall in that category), while interruptible and scheduled loads are not included. However, there is an exception - involuntary load shedding also conceptually includes one type of interruptible load, namely, automatic under-frequency load shedding.

There are two main categories of load shedding schemes in the NEM that AEMO can use:[107]

- Manual load shedding: Manual load shedding is typically used to manage a supply or reserve shortfall and is triggered by AEMO issuing a direction after it has identified projected specific low reserve system conditions. AEMO has the ability to undertake manual load shedding for the purposes of system security and reliability.[108] This load shedding is initiated by AEMO through directions to network service providers (NSPs) to shed blocks of load. This kind of load shedding is usually undertaken where AEMO has identified a lack of reserve in its projected assessment of system adequacy or in pre-dispatch and that lack of reserve means that a supply shortfall may take place. This manual load shedding differs from emergency load shedding schemes in that it is manually initiated rather than automatically triggered. It is also usually manually rotated across load blocks to deliver an equitable outcome

- Emergency load shedding schemes: Controlled load shedding for the management of under-frequency events following a non-credible contingency. Under-frequency load shedding operates only during rare events, usually following a non-credible contingency.

The Commission has considered AEMO's submission to the consultation paper and agrees with AEMO's concern that the use of involuntary load shedding, as currently defined, would be too broad for the purpose of declaring LORs. The Commission agrees that under-frequency load shedding should therefore be excluded from the

104 Ibid. pp. 2-3

105 Ibid. p.3

106 The definition is: Load shedding where the load shed is not an interruptible load except load under the control of underfrequency relays as described in clause S5.1.10.1(a), or a scheduled load.

107 Network service providers are also required to establish localised emergency control schemes for the purposes of maintaining system stability.

108 NER clause 4.3.2. More detail is also available in AEMO's Power System Security Guidelines, see: AEMO, Power System Security Guidelines, September 2016, p.16.

definition. The common interpretation of load shedding is typically manual load shedding, used primarily for reliability purposes, and does not include automatic under-frequency load shedding.

The Commission agrees with AEMO's comments that "involuntary load shedding" appears with the prefix "involuntary" unitalicised elsewhere in the NER, meaning it is not a reference to *involuntary load shedding*, that is, in certain provisions relating to the regulatory investment test for transmission (RIT-T) and the regulatory investment test for distribution (RIT-D).[109] The term appears as such in the RIT-T and the RIT-D provisions as a result of the final rule for a previous rule change request. The Commission is therefore satisfied that the use of the ordinary meaning of involuntary in these cases is not an inconsistency with the defined term.

The Commission has developed an alternative approach to that proposed by AEMO. The draft rule unitalicises the word "involuntary" such that the ordinary meaning of the word applies, therefore improving the accuracy of the use of the concept of "involuntary load shedding". The Commission considers that this achieves the same intent as proposed by AEMO. Therefore the Commission is satisfied that the definition of "involuntary load shedding" can be removed from Chapter 10 of the NER because, following the amendments made by the draft rule described above, that term will not appear anywhere else in the NER.

6.2 Publishing obligations

NER clause 4.8.5 of the NER obliges AEMO to publish LOR declarations as soon as possible. This is primarily conveyed to the market by way of market notices. AEMO also publishes a procedure on this matter.[110] Clauses 3.13.4(f)(6)(i) and 3.13.4(f)(6)(ii) of the NER also oblige AEMO to publish LOR declarations automatically, but within pre-dispatch information.

6.2.1 AEMO's views

In its rule change request, AEMO noted that the Chapter 3 clauses are excessively prescriptive and redundant in the presence of clause 4.8.5.[111] AEMO stated that while compliance with this obligation is straightforward within the current framework, it may become more difficult over time with more sophisticated LOR declaration levels and may unnecessarily hinder the rollout of improved LORs.

It proposes to delete clauses 3.13.4(f)(6)(i) and 3.13.4(f)(6)(ii) as a solution.

109 See clauses 5.17.1(c)(4), 5.17.4(l)(2) and 5.16.1(c)(4)(iii) of the NER.

110 See AEMO's short-term reserve procedure http://www.aemo.com.au/-/media/Files/Electricity/NEM/Security_and_Reliability/Power_System_Ops/Procedures/SO_OP_3703---Short-Term-Reserve-Management.pdf.

111 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, pp. 11-12.

6.2.2 Stakeholders' views

ENGIE considers that there is value in retaining AEMO's obligation within pre-dispatch schedule to publish when and where a low reserve condition exists.[112] ENGIE would prefer that the clauses are retained, and if needed, modified to the extent necessary to allow AEMO to develop and report on the probabilistic methods as they are developed.[113] Stanwell does not find LOR information within pre-dispatch important and suggests improving the information provided, rather than just removing it.[114]

In its supplementary submission, the Australian Energy Council notes that AEMO should publish its forecast uncertainty measure separately in short-term PASA and the pre-dispatch schedule.[115]

In its submission to the consultation paper, AEMO clarifies that it did not intend to suggest that participants are not using this information, but rather that the precise conveyance of LOR information does not need to be specified in the NER beyond the broad obligation to publish in NER clause 4.8.5.[116]

AEMO also notes in its submission that the LOR1 and LOR2 margin levels will be continuously published in the same short-term PASA and pre-dispatch PASA output fields as they are presently.[117]

6.2.3 Commission's draft analysis and conclusions

The Commission agrees with AEMO's proposal to delete the two clauses. NER Clause 4.8.5 contains broad obligations for AEMO to publish LOR declarations and it does so via market notices. The Commission is satisfied that the deletion would improve efficiency by making AEMO's information provision obligations clearer and more transparent, while leaving AEMO with the option to choose how it will inform market participants of reserve shortfalls beyond the obligations of NER clause 4.8.5. The Commission is also satisfied that this deletion will not negatively affect the provision of LOR information to the market to invite market responses.

In fact, the primary information provision framework will remain unchanged. NER clause 4.8.5 clearly and transparently states AEMO's responsibilities with regards to information provision once a LOR is identified. The Commission does, however, note stakeholders' concerns around the removal of this obligation. However, the Commission understands that AEMO intends to keep on publishing LOR margin

112 Energy Networks Australia, submission to consultation paper, p. 2.

113 Ibid. p2

114 Stanwell, submission to consultation paper, p. 4.

115 Australian Energy Council, supplementary submission to consultation paper, p.3.

116 AEMO, submission to consultation paper, p. 5.

117 Ibid. p. 4

levels within pre-dispatch as it currently does, as stated in its submission to the consultation paper and at the stakeholder workshop held in October.

The Commission does also not consider that AEMO should publish its forecast uncertainty measure separately in short-term PASA and the pre-dispatch schedule as suggested by the Australian Energy Council. AEMO already includes the level of reserves in the short-term PASA, which, if this rule is made, will be based on the larger value of the FUM and the existing LOR1 and LOR2 definitions. Therefore, to the extent that the FUM is larger than the existing definitions, this value will be available to stakeholders. In addition, the Commission does not consider, in instances where the FUM is less than the existing LOR2 and LOR2 definitions, that the information would be that relevant to stakeholders and so could potentially result in more confusion. However, the Commission would welcome stakeholder feedback in relation to this point. It may also be something that could be dealt with through the guidelines.

The Commission has also noted stakeholders' comments on improving how this information is incorporated into pre-dispatch and will progress this through the *Reliability Frameworks Review*.

6.3 Purpose of the LOR framework

6.3.1 AEMO's views

In its rule change request, AEMO noted that its proposed rule change clarifies the purpose of LORs and retains the present NER obligations upon AEMO to assess and declare them.[118]

6.3.2 Stakeholders' views

Stakeholders reiterate the importance of the LOR framework and explain how they and the broader community use the framework:

- AusNet Services consider that the framework is being increasingly used beyond NEM participants as an escalating warning system of the risk of load shedding and recommends a clear statement of purpose for the framework[119]
- Stanwell uses forecast LOR declarations as a qualitative input into its market analysis[120]
- A number of stakeholders note that the LOR framework is used by control rooms and also by NSPs to prepare for tight demand-supply days[121]

118 AEMO, *Electricity rule change proposal - lack of reserve declarations*, 1 August 2017, p.4

119 AusNet Services, submission to consultation paper, p. 1.

120 Stanwell, submission to consultation paper, p. 4.

121 Submissions to consultation paper: Energy Networks Australia, p.3; AusNet Services p.1

Because of the widespread use of the LOR framework, stakeholders note that education and consultation will be crucial in any attempt to change the framework and in making and updating the guidelines. Energy Networks Australia note that a new framework would require re-education of operators, managers and politicians and that participants would need to re-write corporate policies to reflect the changes.[122]

6.3.3 Commission's draft analysis and conclusions

The Commission welcomes stakeholders' views as to how they use the framework and notes that education and information sharing will be important in moving to a new framework. The Commission notes that stakeholders use the framework in a number of operational ways that go beyond providing price signals for short-term generation offers. In particular, the facilitation of information sharing and the encouragement of information sharing, was part of the Commission's reasoning for holding a teleconference with stakeholders.

The Commission considers that the purpose of the LOR framework is to inform the market of the risk of involuntary load shedding, that is, to inform the market that reserves are running low, in a transparent and well-understood manner. This information is used by participants in many different ways, by a wide variety of market participants as highlighted by stakeholder submissions depending on the core business of the market participant. AEMO also uses the notices, in particular, LOR2, to trigger interventions, as discussed in more detail in 3.4.

The Commission recognises that stakeholders consider the existing framework to be well-understood. Therefore, the Commission encourages AEMO to continue its education with participants of the new methodology that would exist under the draft rule for example, through presenting on it to its NEM wholesale consultative forum.

The Commission considers that the draft rule and existing NER clause 4.8.5 makes it clear that lack of reserves are declared when the risk of involuntary load shedding is more than remote and that AEMO must inform the market of such as risk as soon as practicable. As a result, the Commission concludes that an explicit purpose statement is not required as suggested by AusNet Services.

122 Energy Networks Australia, submission to consultation paper, p. 4.

Abbreviations

AEMC or Commission	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
LOR	Lack of reserve
NEL	National Electricity Law
NEM	National energy market
NEO	National electricity objective
NER	National Electricity Rules
NSP	Network service provider
PASA	Projected assessment of system adequacy
RERT	Reliability and emergency reserve trader
RIT-D	Regulatory investment test for distribution
RIT-T	Regulatory investment test for transmission

A Summary of other issues raised in submissions

This appendix sets out the issues raised in the first round of consultation on this rule change request and the AEMC's response to each issue. If an issue raised in a submission has been discussed in the main body of this document, it has not been included in this table.

Stakeholder	Issue	AEMC Response
Pacific Hydro, submission to consultation paper, p. 2	**Forecast accuracy** Pacific Hydro states that AEMO is currently responsible for the accuracy of the wind and solar forecast and if these are insufficient and inaccurate then further work is required to achieve a higher level of accuracy. Pacific Hydro considers that the AWEFS and ASEFS systems are inaccurate for the short term (dispatch and pre-dispatch) periods. Errors and inaccuracies in these forecasts cause costs to participants through poor allocation of causer pays and cause a system security issue in dispatch.	The accuracy of AEMO's forecasts is outside of the scope of this rule change. The Commission is considering forecast accuracy through its *Reliability Frameworks Review*. However, the Commission notes that AEMO has recently implemented improvements to these systems, most notably the AWEFS and is aware of the issues associated with causer pays. The Commission encourages stakeholders to engage through its *Reliability Frameworks Review* on this issue and observed outcomes of these forecasts.
PIAC, submission to consultation paper, p. 1	**Consumers' willingness to pay** PIAC notes a number of times that willingness of consumers to pay, and not market participants or other stakeholders is paramount, as any added costs or benefits are ultimately passed through to consumers through the various components of electricity prices. PIAC notes the importance of understanding consumers' willingness to accept lower levels of	The Commission agrees with PIAC that consumers' willingness to pay is a key factor within the reliability framework. This aspect of reliability is being considered through the Reliability Panel's review of the *Reliability Standard and Settings*, as well as the Commission's *Reliability Frameworks Review*. The Commission also notes that in undertaking interventions AEMO must do so in a least-cost manner and in such a way that has the least distortionary effect on the operation of the market, as per the NER.

Stakeholder	Issue	AEMC Response
	reliability that, in the context of reliability and price trade-offs, may allow downward pressure on escalating energy prices.	
Energy Networks Australia, submission to consultation paper, p. 3	**Overlap with other projects** Energy Networks Australia suggests that the AEMC must be across, and be consistent with, the intent of related reviews and rule changes taking place across the NEM. It suggests that the AEMC could consider seeking more data and evidence over a longer-time frame to assist its assessments in justifying such a proposal. If these are not convincing, is a change in calculation methodology the right approach or should it be considered in a wider review?	The Commission is coordinating the reviews mentioned by Energy Networks Australia. The Commission is progressing a number of issues raised by stakeholders in this rule change request that are out of scope, through its *Reliability Frameworks Review*, including: • the definition of credible contingencies • AEMO's forecasting accuracy • the adequacy of the short-term PASA and pre-dispatch processes. The Commission encourages Energy Networks Australia to engage in this separate process about this broader concern. This rule change is required by this summer due to the identified heightened risk of load shedding this summer. The rule change request is being progressed within its narrow aspect of the LOR framework.
ENGIE, submission to consultation paper, p. 3	**Impact on system security** ENGIE states that the rule change proposal would see the assessment of reliability move away from the credible contingency test and apply a probabilistic test. Once this step has been taken, there would be reasonable arguments that a similar test could/should be applied to system security.	The current credible contingency framework does not allow AEMO to probabilistically determine contingencies in the system security space. Moreover, it would not allow this to occur without requiring a rule change. Should this occur, the Commission will then assess the merits of such a proposal at that time. The Commission is, however, assessing the adequacy of current contingency definitions as part of its *Reliability Frameworks Review* in a holistic manner, that is, taking into account

Stakeholder	Issue	AEMC Response
		the impact of the definition on the broader NEM (i.e. including system security) rather than just on reliability.
Australian Energy Council, submission to consultation paper, p. 2	**Redefining credible contingencies** The Australian Energy Council states that if the *Reliability Frameworks Review* finds that the definition of credible contingencies as it currently stands is inappropriate, an updated definition would be more preferable to removing the current LOR definitions and replacing them with a probabilistic model.	The final report of the *Reliability Frameworks Review* is not expected to be published until mid-2018 and AEMO would like for the new framework to be in place by this summer due to the heightened risk of load shedding.
EnergyAustralia, submission to consultation paper, p. 2	**Information provision obligation** EnergyAustralia states that draft guidelines should provide some mechanism or obligation for AEMO to provide detailed information to the market following the declaration of LOR, particularly LOR 2.	No further changes to the NER are necessary since it already obliges AEMO to publish information to the market following the declaration of LORs, in accordance with as set out in NER clause 4.8.5.
Origin, submission to consultation paper, p. 2	**Credible contingency events** Origin believes any change to the definition of credible contingency events should be incorporated into the NER, rather than placing these in reserve level declaration guidelines. Origin states that AEMO proposes to change the criterion of credible contingencies through the rule change proposal.	The Commission notes that the rule change request does not propose to change the definition of credible contingencies and that neither the proposal nor the draft rule proposes to move the definition of credible contingency events out the NER and into guidelines. The definition of credible contingency events will remain unchanged by this rule change and as noted, is being considered through the *Reliability Frameworks Review*.
The Australian Energy Council, submission to	**Understanding of the framework** The Australian Energy Council considers that the	The Commission notes the Australia Energy Council's comment. Education will be crucial if the final rule is made and the Commission

Stakeholder	Issue	AEMC Response
consultation paper, p. 1	current framework is well-understood and should not be changed.	notes that AEMO intends on making sure that it provides information and educates stakeholders about the framework.
Energy Networks Australia, submission to consultation paper, p. 2; Powerlink, submission to consultation paper, p. 1; Australian Energy Council, supplementary submission to consultation paper, p. 3	**Governance arrangements** Energy Networks Australia and Powerlink suggest that the Reliability Panel should have governance of the guidelines. The Australian Energy Council also considers that the Reliability Panel could have governance of any such guidelines - in this case, it has proposed "forecasting uncertainty measure guidelines."	The Commission does not think that the Reliability Panel should be responsible for the guidelines. While the Panel does carry out much of the governance aspects of reliability in the NEM, the details of how LORs are declared are technical in nature and rely on information and inputs that are available to AEMO through the PASA processes. The error modelling being carried out by AEMO relies on historical data that AEMO captures. It would be inappropriate for the Panel to be responsible for carrying out this type of operational modelling. The draft rule gives AEMO responsibility for the guidelines. The same reasoning applies for any similar guidelines, such as the one proposed by the Australia Energy Council.
Stanwell, submission to consultation paper, p. 5	**Rule change process** Stanwell is concerned that having initial guidelines developed prior to the rule change decreases transparency and precludes the Commission from making a more preferable rule.	The Commission notes that the process of publishing the guidelines alongside the determination does not preclude it from making a more preferable rule. The Commission can, and may, still make a more preferable rule or may also have the option of not making the rule if it concludes that either approach is the best outcome to meet the national electricity objective, after having had regard to stakeholders' and AEMO's submissions in response to the draft determination. The process for assessing the rule change request remains unchanged. The Commission will have regard stakeholder submissions to the draft rule before making a final Rule, which may be different from the draft rule, regardless of the timing of AEMO's development of the guidelines.
Australian Energy Council, supplementary submission to consultation paper, p. 4	**Changes to the short-term PASA** The Australian Energy Council notes that given the importance of the short-term PASA, it should be	The Commission notes that this is out of scope for this rule change request. To the extent that stakeholders consider that the timing of the short-term PASA to be an issue, this should be raised through the

Stakeholder	Issue	AEMC Response
	published by AEMO at least hourly.	*Reliability Frameworks Review*.
Australian Energy Council, supplementary submission to consultation paper, p. 4	**Additional guidance around credible contingency events** The Australian Energy Council proposes some changes to LOR descriptions to recognise how interconnector outages are into account for credible contingency events.	The draft rule does not retain the descriptions of each individual LOR level and does not mention credible contingency events specifically. Therefore, the Commission has not adopted these changes.

B Legal requirements under the National Electricity Law

This appendix sets out the relevant legal requirements under the NEL for the Commission to make this draft rule determination.

B.1 Draft rule determination

In accordance with section 99 of the NEL the Commission has made this draft rule determination in relation to the rule proposed by AEMO.

The Commission's reasons for making this draft rule determination are set out in section 2.3.

A copy of the draft rule is attached to and published with this draft rule determination. Its key features are described in section 2.3.

B.2 Power to make the rule

The Commission is satisfied that the draft rule falls within the subject matter about which the Commission may make rules. The draft rule falls within section 34 of the NEL as it relates to the operation of the national electricity system for the purposes of safety, security and reliability of the system.[123]

B.3 Commission's considerations

In assessing the rule change request the Commission considered:

- its powers under the NEL to make the rule
- the rule change request
- submissions received during first round consultation
- the Commission's analysis as to the ways in which the proposed rule will or is likely to, contribute to the NEO.

There is no relevant Ministerial Council on Energy (MCE) statement of policy principles for this rule change request.[124]

The Commission may only make a rule that has effect with respect to an adoptive jurisdiction if satisfied that the proposed rule is compatible with the proper

123 Section 34(1)(a)(ii) of the NEL

124 Under section 33 of the NEL the AEMC must have regard to any relevant MCE statement of policy principles in making a rule. The MCE is referenced in the AEMC's governing legislation and is a legally enduring body comprising the Federal, State and Territory Ministers responsible for Energy. On 1 July 2011 the MCE was amalgamated with the Ministerial Council on Mineral and Petroleum Resources. The amalgamated council is now called the COAG Energy Council.

performance of AEMO's declared system functions.[125] The draft rule is compatible with AEMO's declared system functions because the draft rule is consistent with those functions.

B.4 Northern Territory requirements

From 1 July 2016, the NER, as amended from time to time, apply in the Northern Territory, subject to derogations set out in Regulations made under the Northern Territory legislation adopting the National Electricity Law (NEL), that is, the National Electricity (Northern Territory) (National Uniform Legislation) (Modifications) Regulations. Under those Regulations, only certain parts of the NER have been adopted in the NT. As the proposed rule relates to parts of the NER that currently do not apply in the Northern Territory (i.e. chapters 3 and 4) or will have no practical effect (i.e. chapter 10 definitions), the Commission will not assess the proposed rule against additional elements required by the Northern Territory legislation, that is, the National Electricity (Northern Territory) (National Uniform Legislation) Act 2015.

B.5 Civil penalties

The draft rule does not amend any clauses that are currently classified as civil penalty provisions under the NEL. The Commission does not propose to recommend to the COAG Energy Council that any of the proposed amendments made by the draft rule be classified as civil penalty provisions.

B.6 Conduct provisions

The draft rule does not amend any clauses that are currently classified as conduct provisions under the NEL or the National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the COAG Energy Council that any of the proposed amendments made by the draft rule be classified as conduct provisions.

125 Section 91(8) of the NEL