Interim Reliability Instrument Guidelines

Retailer Reliability Obligation

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AUSTRALIAN ENERGY REGULATOR

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1 Overview

This document is a guideline produced in accordance with the National Electricity Rule (Rules) transitional provision 11.116.2(a) taking into account the matters set out in rules 4A.C.2.(b)(4), 4A.C.3.(b)(4), 4A.C.9(b), 4A.C.11 and 4A.C.12.

1.1 Purpose of this guideline

The AER aims to engage with RRO stakeholders to ensure that the specific roles required of the AER are undertaken in a transparent and efficient manner. The purpose of this guideline is to inform stakeholders how the AER will consider the approval criteria in respect of a request from AEMO for a *reliability instrument* to be made as set out in the Rules, how the AER will consult with stakeholders on a *reliability instrument* request and define what information AEMO must provide the AER as part of a *reliability instrument* request and the form of this information.

1.2 Roles and functions of the AER

The AER has a range of roles in the RRO process which are outlined in Part 2A of the National Electricity Law (NEL) and 4A of the Rules.

Our roles and functions for the RRO include:

- Creation of six guidelines including[1]:
    .1. Reliability Instrument Guidelines
    .2. Market Liquidity Obligation (MLO) Guidelines
    .3. Contracts and Firmness Guidelines
    .4. Forecasting Best Practice Guidelines
    .5. Opt-in Guidelines
    .6. Reliability Compliance Procedures and Guidelines
- Decision to make or not make a *reliability instrument*
- Monitoring of the Market Liquidity Obligation
- Creation of an auditors panel to approve bespoke firmness methodologies
- Decision to approve or reject an application to adjust a net contract position
- Large customer opt-in process and approval
- Compliance

[1] Due to timing constraints the Reliability Instrument Guidelines, MLO Guidelines, Contracts and Firmness Guidelines and Forecasting Best Practice Guidelines will be developed as interim guidelines for operation in 2019 and 2020 until the final guidelines are released in 2020.

1.3 Definitions and interpretation

In this guideline the words and phrases presented in italics have the meaning given to them in the Rules.

2 Reliability instrument process

If a *reliability forecast* (including an update of it under rule 3.13.3A(b)) identifies a *forecast reliability gap* for a region, AEMO must request the AER to consider making a *reliability instrument* at least three months before the T-3 / T-1 cut off day(s) for the relevant *forecast reliability gap* in accordance with section 14I of the NEL and the requirements of Part C, Division 1 of the Rules.

Following the receipt of a request from AEMO and subject to any corrections to the request, the AER has two months to consider whether to make a *reliability instrument*.[2]

In making its decision the AER must:

- Consider the criteria set out in rule 4A.C.11
- Consult with stakeholders

Once a decision has been made the AER will publish the decision, the reasons supporting that decision and if applicable, the *reliability instrument*.

The *reliability instrument* takes effect once published on the AER's website.

[2] Rule 4A.C.6 states AEMO may submit a correction to a reliability instrument within two weeks of the original request. If AEMO submits a correction the AER must use reasonable endeavours to make a decision within the original two month period, however the AER may increase the decision timeframe by the time elapsed between the original request and the correction.

3 Form of instrument

As specified under Rules 4A.C.2(b)(4) and 4A.C.3(b)(4) the Reliability Instrument Guideline will prescribe the form and information AEMO must include in a T-3 or T-1 *reliability instrument* request.[3]

3.1 T-3 and T-1 Instrument request

Under sections 14I(5)(a) and (b) of the NEL, the *reliability instrument* request may only apply to one *forecast reliability gap* period, however a request may be made on more than one occasion in a year for different *forecast reliability gap periods* in the same region or in different regions.

When making a *reliability instrument* request to the AER, AEMO must provide all of the relevant information set out at rules 4A.C.2, 4A.C.3 and at section 14I(4)(c) of the NEL. This includes:

- the *forecast reliability gap* (in MW)
- region in which the *forecast reliability gap* is forecast to occur
- first and last days of the *reliability gap period*
- AEMO's one-in-two year peak demand forecast for the *forecast reliability gap period*
- for a *T-3 reliability instrument* request
    .1. clarify that the *reliability forecast* published in the 6 months immediately preceding the T-3 cut-off day identifies the *forecast reliability gap*
    .2. the *trading intervals* during the *forecast reliability gap period,* for which liable entities may be required to hold *net contract positions* that are sufficient to meet their share of the *one-in-two year peak demand forecast* for the *forecast reliability gap period.*
- for a *T-1 reliability instrument* request
    .1. clarify that, the *forecast reliability gap* published in the related *T-3 reliability instrument* still persists
    .2. the *trading intervals* during the *forecast reliability gap period*, for which *liable entities* will be required to hold *net contract positions* that are sufficient to meet their share of the *one-in-two year peak demand forecast* for the *forecast reliability gap period* if a T-1 instrument is made.

Our approach

Along with the information set out above, AEMO must also provide the following information to the AER when submitting a *reliability instrument* request:

- Data inputs, calculations, assumptions and methodology used in the *reliability forecast*

[3] T-3 is 3 years from the forecast reliability gap. T-1 is 1 year from the forecast reliability gap.

- Any additional supporting information, including but not limited to;
    .1. Sensitivity matrix of the dataset to assist in determining materiality of inputs and assumptions
    .2. Consultancy reports
    .3. Input data and responses provided by AEMO in the stakeholder consultation process of the ESOO

This information must be clearly set out and provided in an electronic form to the AER when making a *reliability instrument* request.

The sensitivity matrix provided by AEMO may be set out as shown in Table 1, or they may choose to provide the information in another format. If another format is chosen it must show how sensitive *unserved energy* is to changes in capacity.

Table 1 Sensitivity analysis example

Additional capacity (MW)	0	100	200	300	330	400	500
USE (%)	0.0061	0.0045	0.0031	0.0023	0.0020	0.0016	0.0011

The information within Table 1 shows how additional capacity (in MW) will affect *unserved energy*. Based on the example data in Table 1, AEMO would submit a reliability instrument request for a gap of 330 MW. This indicates that the forecast *unserved energy* would equal the 0.002% reliability standard if 330 MW of additional capacity was available in the market at the time of the *forecast reliability gap period*.

The additional capacity row of the table can be interpreted as both a positive number representing an increase in supply or a negative that would represent a reduction in demand.

All information and data relating to a *reliability instrument* request will be published on the AER website.

4 AER decision making criteria

This section covers how the AER will consider the criteria set out in rule 4A.C.11 in whether to make or not make a *reliability instrument*.

Rule 4A.C.11 states that in considering if it is appropriate to make a *reliability instrument* the AER must only have regard to the following criteria:

- there are no material errors in AEMO's calculations or input data as it relates to the *reliability forecast*; and
- AEMO has not made any assumptions underpinning its forecast data that are inaccurate and which have had a material impact on unserved energy outcomes in the *reliability forecast*.[4]

Section 14K(3) of the NEL also references the AER's decision to make a *reliability instrument* only if it is satisfied that a *forecast reliability gap* is forecast (for the relevant region and *trading intervals*) and it is appropriate in the circumstances having regard to the criteria stated in the Rules (above).

Our approach

The AER's role in deciding whether to make a *reliability instrument* is to have regard to the criteria as set out at rule 4A.C.11 and not to re-create AEMO's *reliability forecast*, nor is it to duplicate the methodology or modelling used in the *reliability forecast*.

The AER can only make its decision to make or not make a *reliability instrument* based on the decision making criteria. If it is reasonably satisfied there are no material errors or incorrect assumptions the *reliability instrument* will be made.

To assist in determining the materiality of an error or incorrect assumption the sensitivity matrix provided by AEMO as part of an instrument request will be used as a guide. If an error or inaccurate assumption is discovered and the matrix shows it could potentially lower the amount of unserved energy below the reliability standard, or remove the gap altogether, the AER would consider not making a *reliability instrument*.

Conversely, an error or inaccurate assumption that could potentially increase the amount of unserved energy is unlikely to be considered material.

Stakeholders, including the AER, will have the opportunity to provide feedback to AEMO on the inputs used, assumptions made and chosen methodology for each ESOO (which will be used for the *reliability forecast*) as part of AEMO's consultation processes. The AER will be active in this engagement and considers this is the appropriate step in the process of creating a *reliability forecast* where these issues should be discussed.

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4 Transitional provision 11.116.3(d)(2) states the AER is not required to have regard to the Forecasting Best practice Guideline for the purposes of considering an instrument request made by AEMO based on the 2019 ESOO, or any update to it. Because of this 4A.C.11(c) has not been included in this guideline.

As the AER has a two month period in deciding whether to make or not make a *reliability instrument*, the AER will use submissions to AEMO and their responses as they consult with stakeholders on each ESOO, as part of the AER decision making process. The AER will also run a two week consultation period commencing immediately after the receipt of a *reliability instrument* request seeking stakeholder comment on issues directly relating to our decision making criteria.

4.1 Whether there are material errors in AEMO's calculations or input data

Rule 4A.C.11(a) states that the AER, in considering whether it is appropriate in the circumstances to make a *reliability instrument*, must have regard to whether there are material errors in AEMO's calculation or input data that relate to the *reliability forecast*.

Our approach

The process the AER will use to be reasonably satisfied of this rule will be a combination of data validation methods.

The AER will undertake a review of the data provided as part of the *reliability instrument* request to identify any inconsistencies within the data (internal validation) while also comparing it to external data sources for any material discrepancies (external validation).

The AER will also look to identify any significant changes in the input data, for example material changes from previous ESOO datasets or step changes in generation or demand forecasts. We would expect these changes to be explained and consulted on in the preparation of the ESOO or provided in supporting documents of the *reliability instrument* request.

Due to the large amount of data used to create the *reliability forecast* and the short timeframe in deciding whether to make or not make a *reliability instrument* the AER will undertake risk based targeted sample data checks. A focus will be placed on input data that may have a material impact on the *forecast reliability gap,* for example a higher focus would be placed on demand forecasts than residential battery installations.

The AER will also have regard to arithmetic or calculation errors when deciding whether to make or not make a *reliability instrument*. A disagreement on a technical aspect of the *reliability forecast,* for example the forecast number of PV installations in a region, would not be considered. The AER considers issues such as these should be raised in AEMO's consultation processes on the inputs and methodology of the ESOO.

AEMO must provide a sensitivity matrix as part of a *reliability instrument* request. The sensitivity matrix will show the effect the size of an error (in megawatts) will have on the amount of unserved energy. This will be used as a guide to indicate how sensitive the forecast unserved energy is to changes in inputs and assumptions. The AER will use this to determine if any errors identified in the calculation or input data should be considered material. If an error is determined to be material as it could potentially cause the forecast amount of unserved energy to return below the reliability standard, or eliminate the forecast gap altogether, the AER would consider not making a *reliability instrument*.

Submissions from stakeholders will also be used to determine if any material errors in AEMO's calculation or input data have occurred in the *reliability forecast*.

4.2 Whether AEMO has made inaccurate assumptions that materially impact the forecast reliability gap

Rule 4A.C.11(b) states that the AER, in considering whether it is appropriate in the circumstances to make a *reliability instrument*, must have regard to whether AEMO has made any inaccurate assumptions that underpin its forecast data and which have had a material impact on unserved energy outcomes in the *reliability forecast*.

Our approach

For the AER to be reasonably satisfied of this rule it will consider the assumptions used by AEMO in its *reliability forecast*. Assumptions currently used by AEMO include, but are not limited to,

- Forced outages
- Demand forecasting scenarios
- Economic growth and population outlook
- Rooftop PV
- Non-scheduled PV
- Electric Vehicle uptake
- Battery storage installed capacity
- Weather and climate

For an assumption to be considered inaccurate the AER considers that it must be proven to be non-credible. For example, an evidence based contradicting view of an assumption from a publicly available highly reputable external data source. If there are multiple contradictory views, the AER will consider all available information when making a decision if the assumption should be considered inaccurate.

However, to satisfy the rule it must also have had a material impact on unserved energy outcomes in the *reliability forecast*.

As discussed under section 4.1 above, the AER will use AEMO's sensitivity matrix provided as part of the *reliability instrument* request as a guide to determine if any inaccurate assumption should be considered material. If an inaccurate assumption is determined to be material as it could potentially cause the forecast amount of unserved energy to return below the reliability standard, or eliminate the forecast gap altogether, the AER would consider not making a *reliability instrument*.

Submissions from stakeholders will also be used to determine if any assumptions are inaccurate and have had a material impact on unserved energy outcomes.

5 Stakeholder consultation

A two week consultation period will commence when the AER publishes the *reliability instrument* request on its website. The short time frame is a result of the AER's two month timeline to make a decision on the instrument request and allowing enough time to consider stakeholders feedback in the decision making process.

If multiple *reliability instrument* requests based on the same ESOO are received from AEMO they will be considered in one process. Stakeholders can choose to provide one submission on all requests or on each individual request.

Stakeholders will be asked to provide submissions on whether AEMO's request for the AER to make a *reliability instrument* should be approved or rejected. Stakeholders making submissions should consider that the AER is limited to the decision making criteria identified in section 14K(3) of the NEL and rule 4A.C.11, which states it can only have regard to the following criteria when considering to make or not make a *reliability instrument*:

1. there are no material errors in AEMO's calculations or input data as it relates to the *reliability forecast*;
2. AEMO has not made any assumptions underpinning its forecast data that are inaccurate and which have had a material impact on unserved energy outcomes in the *reliability forecast*.[5]

Stakeholder submissions will be published on the AER's website and will be considered by the AER in its decision to make or not make a *reliability instrument*.

[5] Transitional provision 11.116.3(d)(2) states the AER is not required to have regard to the Forecasting Best practice Guideline for the purposes of considering an instrument request made by AEMO based on the 2019 ESOO, or any update to it. Because of this 4A.C.11(c) has not been included in this guideline.

6 AER decision

Section 14K(6) of the NEL states the AER must publish its decision to make or refuse to make a *reliability instrument*, and the reasons for its decision, on its website. If the AER makes the *reliability instrument*, it takes effect from the day it is published.

A decision must be made before the respective cut-off day (T-3 or T-1) for the *reliability instrument* request.[6]

As per clause 14K(3)(b) the AER can only make a *reliability instrument* for the region, *forecast reliability gap period* and *trading intervals* as stated in AEMO's request without modification.

If the AER makes a *reliability instrument* it will state the information set out in section 14I(4)(c). For a T-1 *reliability instrument* it will also set out the *contract position day* (including the new entrant contract *position day*) and *reporting day.*

The AER's decision on the *reliability instrument* request will outline how it has assessed the request in line with the decision making criteria, and how it has responded to stakeholder submissions.

6 The T-3 cut-off day for a forecast reliability gap is the day that is 3 years before the day the forecast reliability gap period for the forecast reliability gap starts. The T-1 cut-off day is 1 year before the day the forecast reliability gap period for the forecast reliability gap starts.