

21 December 2021

Ms Anna Collyer  
Chair  
Australian Energy Market Commission  
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By online submission

Dear Ms. Collyer

### **Enhancing operational resilience in relation to indistinct events – ERC0304**

AEMO welcomes the opportunity to provide feedback on the AEMC's Draft Determination and Draft Rule on Enhancing Operational Resilience in relation to Indistinct Events published on 28 October 2021. We would also like to thank Commission staff for their constructive engagement and efforts to seek in-depth feedback on operational issues and stakeholder concerns through a technical working group process.

In framing this submission, AEMO considers it may be useful to summarise the problem that this rule seeks to address, as AEMO understands it: that the current contingency events reclassification process does not give AEMO a clear mandate to respond to credible threats to the power system which cannot be addressed through reclassification of identified generation or transmission elements at risk. AEMO understands that most members of the technical working group considered that AEMO should have, or possibly already does have, appropriate powers to manage such risks.

AEMO maintains its preference for a framework that minimises operational complexity and administrative burden for managing indistinct events to enhance operational resilience, while remaining transparent about AEMO's operational management of abnormal conditions. AEMO believes this is best achieved through a tested framework that continues to work well overall to meet the power system security principles set in the rules. Risks presented by indistinct events should be managed with the same objective as risks that present a threat to identified power system assets. In both cases this involves taking prudent measures to configure the power system, as far as practical, to withstand the occurrence of contingencies that can be considered reasonably possible in a given set of conditions.

AEMO therefore acknowledges and supports the Commission's draft determination to accommodate indistinct events under the existing contingency event and reclassification framework.

There are, however, some aspects of the Commission's more preferable draft rule that would benefit from further consideration to:

- streamline the management of indistinct events while maintaining the necessary transparency and reasonable levels of 'ex ante' certainty where possible, and
- ensure each additional rule has a clear purpose that adds value to the framework in a way that will benefit consumers.

Our key points of concern on the draft rule are summarised below, with suggested drafting changes provided in Attachment A.

## 1. Describing indistinct events

The nature of some risks makes it impossible to identify which elements to reclassify into a single credible contingency. In other words, if potentially hundreds of elements are at risk, it is not feasible to identify which ones will fail. This is the concept embodied by 'indistinct events'.

The draft rule characterises indistinct events by referring to the (in)ability of 'contingency event analysis' to determine an appropriate response or power system security outcome. As discussed during the technical working group meeting on 30 November 2021, contingency event analysis is commonly understood to refer to the operational contingency analysis tool that forms part of the Energy Management System (EMS). This tool operates in every 5 minute dispatch cycle to analyse whether the removal of any individual modelled power system element would cause a breach of any operational limits and raise an alarm if it does. When reclassification occurs, AEMO controllers can represent a number of elements as a single element for contingency analysis, using constraint equations. Contingency analysis cannot account for external risks and does not determine the appropriate operational response. It also does not provide operational awareness for all aspects of the technical envelope of the power system.

AEMO is of the view that the concept of indistinct events would be better framed in terms of whether or not the risk of occurrence can reasonably be addressed by constraints that identify specific power system elements at risk from a given set of abnormal conditions.

## 2. Power system security principles

Given the nature of an indistinct event, an appropriate operational response will aim to give reasonable confidence that the power system will remain within operating limits for the loss of that number and type of elements that can be considered reasonably possible in the actual or forecast conditions.

Any constraint invoked to address an indistinct event will therefore represent a measure that is considered reasonable and proportionate, given the abnormal conditions. Unlike contingencies that could impact identified elements, the impact of an indistinct event cannot be reliably quantified. This means AEMO has no pre-defined reference to indicate whether the power system would remain satisfactory and return to a secure operating state if the event occurred.

We believe the power system security principles in clause 4.2.6 of the rules are sufficiently broad to allow for a reasonable and proportionate response to widespread risk, without the need for specific amendment. Specifically, they provide that, 'to the extent practicable, the power

system should be operated such that it is and will remain in a secure operating state'. We understand the Commission is of the same view, but would appreciate confirmation.

### **3. Power system security responsibilities do not need expansion**

In AEMO's view, it is not necessary to characterise the reclassification process as an incremental power system security responsibility. This is because the reclassification process is a constituent element of the responsibility to maintain power system security, that is, to achieving the power system security principles. Further, the concept that is proposed in clause 4.3.1(j1) of the draft rule is already covered by the responsibilities contemplated in existing clauses 4.3.1(a) to (k), so would unnecessarily duplicate obligations.

### **4. Reclassification criteria should include anticipated management actions**

In relation to governance arrangements, AEMO agrees with the position in the draft rule that the reclassification criteria under clause 4.2.3B should describe when abnormal conditions may result in the reclassification of indistinct multiple contingencies as credible. The existing rules require AEMO to consult on amendments to the reclassification criteria with relevant stakeholders including Market Participants, Transmission Network Service Providers, Jurisdictional System Security Coordinators and relevant emergency services agencies.

However, the draft rule indicates that the expected operational actions to manage these reclassifications should be included in power system operating procedures (which do not require consultation). For both practicality and transparency, AEMO submits that these actions should be developed and consulted on together with the reclassification criteria, and recorded as part of those criteria. The reclassification criteria are currently documented in the Power System Security Guidelines.

### **5. Appropriate reclassification reporting frameworks and feedback loops**

The draft rule would require AEMO to report on instances when either a reclassification or an operational response for an indistinct event was not anticipated in the reclassification criteria or associated procedures in two ways: initially as a reviewable operating incident report under clause 4.8.15; and then as part of the general power system risk review (GPSRR), which will supersede the power system frequency risk review from 2023.

Transparent reporting on unexpected outcomes is important and can result in learnings for both AEMO and industry participants about the nature of risk, the impact of constraints or simply the effectiveness of process. However, neither reporting method in the draft rule is effective or efficient for the following reasons:

- Reclassification of a contingency event as credible and the associated constraints applied should not, of itself, be properly considered an operating incident. This is the case whether the contingency is distinct or indistinct, and whether or not it was previously contemplated in the reclassification criteria. Where an impact does not actually occur, it would not normally be understood as a reviewable incident.

- AEMO's six-monthly reclassification reporting would be a logical and appropriate place to capture these unanticipated reclassifications. Reporting through the six-monthly reclassification report is also likely to be more timely than reporting via the reviewable operating incident report process. Importantly, reclassification reporting can provide a direct link back to the reclassification criteria, by considering whether they should be reviewed to incorporate the relevant conditions or actions. AEMO has proposed specific wording to the draft rule in Attachment A to incorporate reclassification decisions in this category.
- The GPSRR, which was the subject of a recent rule change, will be an annual process that identifies and prioritises contingencies and other risks to the power system for review. If the risk that resulted in reclassification is significant enough to be identified as a priority risk for review within the scope of the GPSRR, it will be included. However, it is not efficient to further expand the scope of the GPSRR to include a category of reclassifications; it cannot be assumed that a previously unforeseen risk will automatically be significant or likely enough to displace other GPSRR priorities identified in consultation with relevant participants. The importance of a prioritised GPSRR was explained by AEMO at length in its submission to the draft GPSRR rule change. AEMO considers that the change proposed in this draft rule has the potential to disrupt the GPSRR process.

## 6. Transitional matters

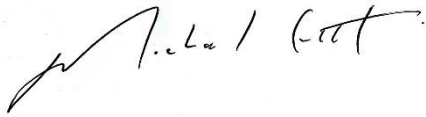
The draft rule proposes 18 August 2022 as an effective date. Based on previous experience and noting that this change requires materially different considerations from the current criteria, it is likely that consultation on the initial indistinct event reclassification criteria and management actions for a range of foreseeable abnormal conditions would require approximately 12 months from the date the final rule is made. This will allow for the necessary collaborative technical process undertaken at working group level, and consultation as required by the rules. We request the Commission to take this period into consideration in finalising the rule.

Suggested amendments to the draft rule to reflect the above concerns and recommendations are included in Attachment A.

Finally, although the draft rule does not propose any changes to the market notification structure for abnormal conditions or reclassification, AEMO observes that one stakeholder submission to the Commission's consultation paper suggested AEMO's market notices provide insufficient or inconsistent information. AEMO emphasises that the notification framework contemplates a number of notice types where the purpose of communication will vary, and levels of available detail will be situation-dependent. If the presentation of market information is a concern, AEMO is willing to discuss any reasonable improvement suggestions that could deliver demonstrable net benefits to the market.

Should you wish to discuss any of the matters raised in this submission, please contact Kevin Ly, on [kevin.ly@aemo.com.au](mailto:kevin.ly@aemo.com.au).

Yours sincerely



Michael Gatt  
**Executive General Manager Operations**

Attachment A: AEMO's proposed drafting amendments to the Draft Rule

**Attachment A to AEMO submission on draft determination: 6 January 2022**

**AEMO comments in markup**

**Draft National Electricity Amendment (Enhancing operational resilience in relation to indistinct events) Rule 2022**

**1 Title of Rule**

This Rule is the *Draft National Electricity Amendment (Enhancing operational resilience in relation to indistinct events) Rule 2022*.

**2 Commencement**

Schedule 1 of this Rule commences operation on [18 August 2022].

Schedule 2 of this Rule commences operation on [24 February 2022].

**3 Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 1.

**4 Savings and Transitional Amendment to the National Electricity Rules**

The National Electricity Rules are amended as set out in Schedule 2.

**Schedule 1      Amendment to the National Electricity Rules**

(Clause 3)

**[1] Clause 4.2.3      Credible and non-credible contingency events and protected events**

Omit clause 4.2.3(a) and substitute:

- (a) A *contingency event* means an event on the *power system* which *AEMO* expects would be likely to involve:
  - (1) the failure or removal from operational service of *plant*; or
  - (2) a sudden and unplanned change to the *loading level* of *plant*.

**[2] Clause 4.2.3A      Re-classifying contingency events**

In the heading of clause 4.2.3A, omit "Re-classifying" and substitute "Reclassifying".

**[3] Clause 4.2.3A      Reclassifying contingency events**

In clause 4.2.3A(b)(1), omit "a *contingency event*" and substitute "the *power system*".

**[4] Clause 4.2.3A      Reclassifying contingency events**

In clause 4.2.3A(b)(2), omit "any *non-credible contingency event* which is more" and substitute "whether a *non-credible contingency event* is more".

**[5] Clause 4.2.3A      Reclassifying contingency events**

In clause 4.2.3A(c), omit "a *non-credible contingency event* which is more" and substitute "that a *non-credible contingency event* ~~that~~ is more".

**Commented [A1]:** Changing this is fundamental to clarifying the management of events where the actual contingency events cannot reasonably be identified. Corresponding wording was correctly amended in (e)

**[6] Clause 4.2.3A      Reclassifying contingency events**

In clause 4.2.3A(c)(2), omit "relevant".

**[7] Clause 4.2.3A      Reclassifying contingency events**

Omit clause 4.2.3A(c)(3) and substitute:

- (3) whether *AEMO* has reclassified the *non-credible contingency event* as a *credible contingency event* under clause 4.2.3A(g), and, if so, any additional measures implemented to maintain *power system security*;

**[8] Clause 4.2.3A      Reclassifying contingency events**

In clause 4.2.3A(d), omit "have a material effect on the likely occurrence" and substitute "increase the likelihood".

**[9] Clause 4.2.3A Reclassifying contingency events**

Omit clause 4.2.3A(e) and substitute:

- (e) If *AEMO* identifies that a *non-credible contingency event* is more likely to occur because of *abnormal conditions* it must, on a regular basis while the *abnormal conditions* exist, consider whether they make the occurrence of that *non-credible contingency event* reasonably possible, having regard to all the facts and circumstances identified in accordance with clause 4.2.3A(b).

**[10] Clause 4.2.3A Reclassifying contingency events**

In clause 4.2.3A(f), omit the note.

**[11] Clause 4.2.3A Reclassifying contingency events**

Omit clause 4.2.3A(g) and substitute:

- (g) If, after undertaking a consideration in accordance with clause 4.2.3A(e), *AEMO* decides that the existence of the *abnormal conditions* make the occurrence of a *non-credible contingency event* reasonably possible, it must:
  - (1) reclassify that event to be a *credible contingency event* and must notify *Market Participants* as soon as practicable;
  - (2) determine, having regard to the *reclassification criteria*, what measures it will implement to maintain *power system security*; and
  - (3) provide *Market Participants* with a notification consistent with the requirements in paragraph (c).

**Commented [A2]:** This assumes the measures are included in the reclassification criteria – which is sensible but not consistent with the draft determination

**[12] Clause 4.2.3A Reclassifying contingency events**

In clause 4.2.3A(h), omit "*AEMO* may reclassify that *credible contingency event* to be a *non-credible contingency event*. If *AEMO* does so, it must notify" and substitute "*AEMO* must reclassify that *credible contingency event* to be a *non-credible contingency event* and notify".

**[13] Clause 4.2.3A Reclassifying contingency events**

Omit clause 4.2.3A(i) and substitute:

- (i) Every six months, *AEMO* must issue a report setting out its reasons for all decisions to reclassify *non-credible contingency events* to be *credible contingency events* under clause 4.2.3A(g) during the relevant period. The report must include:
  - (1) an explanation of how *AEMO* applied the *reclassification criteria* for each reclassification decision;



- (2) *AEMO's* appraisal of the appropriateness and effectiveness of the *reclassification criteria* and the measures applied to maintain *power system security* as a result of reclassification decisions; ~~and~~
- (3) *AEMO's* analysis of reclassification trends during the relevant period; ~~and-~~
- (4) where relevant, the information described in paragraph (j).

(j) If, during a reporting period under paragraph (i):

- (1) *AEMO* has reclassified a *non-credible contingency event* as a *credible contingency event* in the circumstances described in clause 4.2.3B(e)(1); and
- (2) the action taken by *AEMO* in response to that reclassification could not reasonably have been expected having regard to the information published in the *reclassification criteria* under clause 4.2.3B(e)(2), *AEMO's* report under paragraph (i) must include the reasons for reclassification, or as applicable, for the actions taken, and *AEMO's* assessment of the need to review the *reclassification criteria* to incorporate the relevant *abnormal conditions* or actions.

**Commented [A3]:** AEMO suggests the addition of a new paragraph (j) below, requiring AEMO to report on any unanticipated management actions for indistinct reclassification decisions, in place of the proposal for 4.8.15.

**[14] Clause 4.2.3B      Criteria for re-classifying contingency events**

In the heading of clause 4.2.3B, omit "re-classifying" and substitute "reclassifying".

**[15] Clause 4.2.3B      Criteria for reclassifying contingency events**

Omit clause 4.2.3B(a) and substitute:

- (a) *AEMO* must develop and publish criteria (*reclassification criteria*) that it must use when considering whether the existence of *abnormal conditions* make the occurrence of a *non-credible contingency event* reasonably possible under clause 4.2.3A(e).

**[16] Clause 4.2.3B      Criteria for reclassifying contingency events**

In clause 4.2.3B(b), omit "criteria established under clause 4.2.3B(a)" and substitute "*reclassification criteria*".

**[17] Clause 4.2.3B      Criteria for reclassifying contingency events**

In clause 4.2.3B(c), omit "criteria established under clause 4.2.3B(a)" and substitute "*reclassification criteria*".

**[18] Clause 4.2.3B Criteria for reclassifying contingency events**

In clause 4.2.3B(d), omit "establishing, reviewing or amending the criteria under this clause" and substitute "reviewing or amending the *reclassification criteria*".

**[19] Clause 4.2.3B Criteria for reclassifying contingency events**

In clause 4.2.3B(d)(2), omit "criteria" and substitute "*reclassification criteria*".

**[20] Clause 4.2.3B Criteria for reclassifying contingency events**

In clause 4.2.3B(d)(3), omit "*publish* the criteria" and substitute "*publish* the *reclassification criteria*".

**[21] Clause 4.2.3B Criteria for reclassifying contingency events**

After clause 4.2.3B(d), insert a new clause 4.2.3B(e) as follows:

- ~~(e) AEMO must, to the extent practicable, include in the *reclassification criteria* the *abnormal conditions* in respect of which AEMO may:~~
  - ~~(1) assess the possible impact of the occurrence of related *credible contingency events* and determine the appropriate response required for the maintenance of *power system security* using methods other than *contingency event analysis* in accordance with clause 4.3.1(j1);~~
  - ~~(2) take action in relation to a particular class or classes of *network element, generating unit* or other *connected plant*.~~
- (e) AEMO must, to the extent practicable, identify in the *reclassification criteria*:
  - (1) the *abnormal conditions* and associated criteria for determining when a *non-credible contingency event* may be reclassified as a *credible contingency event* in circumstances where the possible impact cannot reasonably be addressed by the application of *constraints* involving identified *power system* elements in respect of which *contingency events* may occur; and
  - (2) in relation to the circumstances in sub-paragraph (1) and in accordance with any guidelines published under clause 8.8.1(a)(2a), one or more appropriate responses that may reasonably be expected to maintain *power system security*.

**Commented [A4]:** The tools AEMO uses should not be specified in the rules – rather the issue is whether the risk of occurrence can reasonably be addressed by constraints that identify specific at-risk elements, or not. The proposed range of response actions should be part of the reclassification criteria to ensure greater transparency

**Commented [A5]:** Alternative drafting for paragraph (e) is proposed to address above comments

**Commented [A6]:** Note addition of reference to Reliability Panel guidelines

**Commented [A7]:** Proposal to include in the reclassification criteria and not in power system operating procedures

**Commented [A8]:** See comments on 4.2.3B(e). This clause essentially describes the reclassification process. This has never been included in the power system security responsibilities – and shouldn't be now - because it is a constituent element of the responsibility to maintain power system security, i.e. achieving the power system security principles. Reclassification and consequent actions are part of what is already contemplated in 4.3.1(a) to (k).

**[22] Clause 4.3.1 Responsibility of AEMO for power system security**

After clause 4.3.1(j), insert a new clause 4.3.1(j1) as follows:

- ~~(j1) to assess the possible impact of the occurrence of a credible contingency event and determine the appropriate response required for the maintenance of power system security and in doing so:~~
- ~~(1) where reasonably practicable use contingency event analysis; or~~
  - ~~(2) where not reasonably practicable (for example, due to the event involving a large number of multiple power system elements or a class or classes of power system elements) use other reasonable practices or methodologies determined by AEMO;~~
- ~~(j2) to publish information in the power system operating procedures about the actions AEMO may determine to take in the circumstances contemplated by paragraph (j1)(2);~~

### **[23] Clause 4.8.15 Review of operating incidents**

After clause 4.8.15(a)(2), insert a new clause 4.8.15(a)(2A) as follows:

- ~~(2A) an incident where AEMO:~~
- ~~(i) does not use contingency event analysis to determine the appropriate response required for the maintenance of power system security in respect of a credible contingency event; and~~
  - ~~(ii) the response by AEMO could not reasonably have been expected having regard to the information published by AEMO in the reclassification criteria under clause 4.2.3B(e) or the power system operating procedures under clause 4.3.1(j2); or~~

**Commented [A9]:** A reclassification decision and subsequent management action can't be properly described as an 'operating incident', or even just an 'incident' as that term is understood in this context. AEMO suggests this provision is replaced with additional reporting requirements for indistinct event reclassifications in 4.2.3A

### **[24] Clause 4.8.15 — Review of operating incidents**

In clause 4.8.15(ca), omit "re-classification criteria published under clause 4.2.3B" and substitute "reclassification criteria".

### **[25] Clause 5.20A.1 General power system risk review**

After clause 5.20A.1(a)(2), insert a new clause 5.20A.1(a)(2A) as follows:

- ~~(2A) reviewable operating incidents as defined in clause 4.8.15(a)(2A);~~

**Commented [A10]:** The GPSRR framework was the subject of a recent rule change. If the reclassification decision relates to a contingency event risk that is identified as a priority risk for review within the existing scope of the GPSRR, it will be included in any event. The scope of the GPSRR should not be broadened

### **[26] Clause 5.20A.1 — General power system risk review**

In clause 5.20A.1(a)(3), omit "sub paragraphs (1) and (2)" and substitute "subparagraphs (1) to (3)".

### **[27] Clause 5.20A.1 — General power system risk review**

In clause 5.20A.1(a)(5), omit "paragraph (2)" and substitute "paragraphs (2) and (2A)".

### **[28] Clause 5.20A.1 — General power system risk review**

In clause 5.20A.1(e)(3)(iii), omit "and" at the end of the clause.

**[29] Clause 5.20A.1 — General power system risk review**

In clause 5.20A.1(e)(4), omit "modify the scheme." and substitute "modify the scheme; and".

**[30] Clause 5.20A.1 — General power system risk review**

After clause 5.20A.1(e)(4), insert a new clause 5.20A.1(e)(5) as follows:

- (5) ~~for reviewable operating incidents referred to in paragraph (a)(2A), assess:~~
  - (i) ~~the likelihood of a similar incident reoccurring; and~~
  - (ii) ~~where relevant, the need to include options for responding to similar incidents in the information published under clause 4.3.1(j2).~~

**[31] Clause 8.8.1 Purpose of Reliability Panel**

In clause 8.8.1(a)(2a), after "clause 4.2.6(b)" insert "and clause [4.2.3B\(c\)](#)~~4.3.1(j1)~~".

**Commented [A11]:** Refer to comment on clause 4.3.1

**[32] Chapter 10 Glossary**

In the definition of "*plant*", after paragraph (f), insert a new paragraph (g) as follows:

- (g) In relation to the *power system*, includes all equipment involved in the *generation, transmission or distribution* of electrical *energy*.

**[33] Chapter 10 Glossary**

In chapter 10, insert the following new definition in alphabetical order:

***reclassification criteria***

Has the meaning given to it in clause 4.2.3B(a).

## Schedule 2 Savings and Transitional Amendment to the National Electricity Rules

(Clause 4)

### [1] New Part ZZZZ[x] Enhancing operational resilience in relation to indistinct events

In Chapter 11, after Part ZZZZ[x], insert a new Part:

#### Part ZZZZ[x] Enhancing operational resilience in relation to indistinct events

#### 11.[xxx] Rules consequential on the making of the National Electricity Amendment (Enhancing operational resilience in relation to indistinct events) Rule 2022

##### 11.[xxx].1 Definitions

- (a) In this rule 11.[xxx]:

**Amending Rule** means the *National Electricity Amendment (Enhancing operational resilience in relation to indistinct events) Rule 2022*.

**commencement date** means the date of commencement of Schedule 1 of the Amending Rule.

**new clause 4.2.3B(d)** means clause 4.2.3B(d) as in force on and from the commencement date.

- (b) Italicised terms used in this rule 11.[xxx] have the same meaning as in Chapter 10 as in force on and from the commencement date.

##### 11.[xxx].2 Review of AEMO documents

- (a) By the commencement date, AEMO must review and where AEMO considers it necessary or desirable amend the *reclassification criteria* and *power system operating procedures* to take into account the Amending Rule.
- (b) In reviewing and amending the *reclassification criteria* and *power system operating procedures* under paragraph (a), AEMO must comply with the consultation requirements in new clause 4.2.3B(d).
- (c) Amendments made in accordance with paragraph (a) must take effect on and from the commencement date.

**Commented [A12]:** AEMO estimates approximately 12 months from the date the final rule is made to consult on the reclassification criteria and management actions for indistinct events for publication. The process typically takes this long given the collaborative process that is undertaken at working group level and broader consultation with market participants