

Australian Energy Market Commission

## RULE DETERMINATION

# NATIONAL ELECTRICITY AMENDMENT (IMPLEMENTING A GENERAL POWER SYSTEM RISK REVIEW (GPSRR)) RULE 2021

### PROPONENT

COAG Energy Council

03 JUNE 2021

## INQUIRIES

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## ABOUT THE AEMC

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

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## SUMMARY

- 1 On 3 June 2021, the Australian Energy Market Commission (AEMC or Commission) made a final determination and final rule to amend the National Electricity Rules (NER or Rules) to implement a holistic General Power System Risk Review (GPSRR) that will replace the existing Power System Frequency Risk Review (PSFRR).
- 2 The final rule implements an annual review that will involve the Australian Energy Market Operator (AEMO), in collaboration with Network Service Providers (NSPs), to identify and assess risks to power system security that it expects would be likely to lead to cascading outages or major supply disruptions. The GPSRR, as part of a suite of measures being progressed by the AEMC and the Energy Security Board, will increase the transparency of emerging system security risks that may need to be managed, helping AEMO, NSPs and market participants better understand the nature of new risks and monitor these over time.
- 3 The Commission is of the view that the need for a comprehensive risk review is now greater than ever, given the changing impacts on the risk and resilience profile of the power system as the generation mix transitions. The final rule is likely to promote better and more timely identification and assessment of emerging risks from all sources, promoting the long-term interests of consumers as the costs of cascading outages or major supply disruptions can be significant. The rule requires AEMO to complete the first GPSRR by 31 July 2023, following the completion of the last PSFRR by 31 July 2022.

## The rule change request

- 4 In its *Review of the South Australian Black System Event* report (BSE review)<sup>1</sup>, the Commission recommended expanding existing frameworks to enhance prompt identification of risks to system security from all sources through the implementation of a GPSRR.
- 5 Following the BSE review, the Council of Australian Governments (COAG) Energy Council<sup>2</sup> submitted a rule change request on 26 May 2020 to implement this recommendation. The COAG Energy Council considered that there are a range of shortcomings with the existing PSFRR.<sup>3</sup> In particular, the COAG Energy Council sought to amend the Rules in order:<sup>4</sup>
  - for the GPSRR to consider all events and conditions the occurrence of which AEMO expects, alone or in combination, would be likely to lead to major supply disruptions
  - to enhance the breadth of the sources of risk considered in the GPSRR to include a wider range of sources of risk beyond frequency
  - to deepen the review to formally include Distribution Network Service Providers (DNSPs)

1 For more information, see: <https://www.aemc.gov.au/markets-reviews-advice/review-of-the-system-black-event-in-south-australia>. For more information, see section 1.6 and appendix B.

2 On 29 May 2020, the Prime Minister announced the establishment of the National Federation Reform Council and the disbanding of the COAG. New arrangements for the former COAG Energy Council will be finalised following the National Cabinet Review of COAG Councils and Ministerial Forums. The Prime Minister has advised that, while this change is being implemented, former Councils may continue meeting as a Ministerial Forum to progress critical and/or well-developed work.

3 COAG Energy Council, rule change request, p. 3.

4 *ibid*, p. 1.

- to increase the speed and frequency of the review process, and
- to integrate the review with other AEMO and NSP planning processes.

## The final rule

- 6 The Commission has determined to make a more preferable final rule that largely reflects the rule proposed by the COAG Energy Council. The final rule implements a broader review – called the ‘general power system risk review’ – to replace the current PSFRR.
- 7 The final rule requires AEMO to review, annually through the GPSRR, in respect of a prioritised set of risks determined by AEMO:
  - non-credible contingency events, the occurrence of which AEMO expects would be likely to involve uncontrolled increases or decreases in frequency, alone or in combination, leading to cascading outages, or major supply disruptions, and
  - other events and conditions (including contingency events) the occurrence of which AEMO expects, alone or in combination, would be likely to lead to cascading outages, or major supply disruptions.
- 8 The final rule requires AEMO to first identify a number of priority risks to be reviewed in the GPSRR and in cooperation with NSPs. In identifying the priority risks, AEMO must have regard to the severity of the likely power system security outcomes if the events or conditions occur, and the likelihood of the event or condition occurring. In respect of these priority risks, and using data inputs provided by NSPs, the rule requires AEMO to review current arrangements and identify options for future management of these events and conditions.
- 9 The Commission expects that only a limited number of priority risks will be assessed in depth through each GPSRR. The GPSRR will be a tool to monitor risks over time and is not intended to present assessments of all potential system risks in detail. The GPSRR will be based on a high-level look at risk arrangements, iterating over time. This means that the selection of risks should be prioritised on a case by case basis reflecting what risks may be more material at a particular point in time. AEMO is also expected to leverage off existing arrangements to ensure resources are managed efficiently and are focused on priority matters.
- 10 In relation to the process for the GPSRR, the final rule builds on the existing collaborative process for the current PSFRR, but streamlines it and increases the frequency. The final rule requires AEMO to:
  - undertake the GPSRR no less than annually;
  - consult with, and take into account the views of, relevant NSPs (both transmission and distribution) in the conduct of the GPSRR, and
  - publish and consult on an approach paper at the commencement of the review specifying the priority risks to be assessed, the approach and methodologies in assessing each risk, information inputs and assumptions used, and approach to interacting with NSPs.
- 11 The final rule also requires NSPs to co-operate with AEMO and provide AEMO all information and assistance reasonably requested to enable AEMO to undertake the review expeditiously.

As part of the initial consultation, and for the purposes of the approach paper, NSP's would provide to AEMO their views and findings from their annual planning reviews in relation to the potential risks that may lead to major supply disruptions. NSPs are not expected to perform major system modelling exercises or provide computer models to AEMO at this initial stage. For the purposes of the assessment of the prioritised risks, and in the preparation of the final report, NSPs must provide AEMO with all information reasonably required by AEMO. This could include providing AEMO with details of any options the NSP has identified for mitigating the priority risks and providing any computer models that AEMO reasonably requires.

- 12 In relation to the coordination and integration of planning processes, the final rule requires:
- NSPs, in their annual planning reviews, to:
    - take into account the outcomes from the recent GPSRR, and
    - consider the operation of, and any known or potential interactions between, any emergency frequency control schemes or emergency controls on their network; and protection systems or control systems of plant connected to their networks including consideration of whether they are fit for purpose for the future operation of the network, where the NSP expects that such operation or interactions would be likely to lead to cascading outages or major supply disruptions
  - AEMO to consider and have regard to the outcomes of the GPSRR in conducting the Integrated System Plan.
- 13 The final rule is a more preferable rule that varies from the proposed rule. In its rule change request, the COAG Energy Council proposed to require AEMO to review significant risks associated with all system conditions and events (including contingency events). The Commission has determined to retain the current framework in the NER whereby AEMO must consider for priority risks non-credible contingency events the occurrence of which AEMO expects, alone or in combination, would be likely to involve uncontrolled increases or decreases in frequency leading to cascading outages, or major supply disruptions; and introduce a new requirement for AEMO to also consider for priority risks, all events and conditions (including contingency events) that AEMO considers could lead to cascading outages and major supply disruptions. The Commission considers that with this change the final rule would better:
- maintain the delineation between the existing protected event framework that is designed for management of frequency risks arising from non-credible contingency events, and the assessment of risks associated with all other events and conditions (including contingency events), and
  - recognise the existing arrangements that allow AEMO to manage frequency risks associated with credible contingency events through the frequency control ancillary services (FCAS) markets.
- 14 The change to the proposed rule does not materially alter the intent of the Commission's recommendation from the BSE report nor the policy position reflected in the rule change request. The more preferable final rule is broadly consistent with the proposed rule in respect of the GPSRR scope, frequency and coordination and integration of planning arrangements.

15 The Commission considers that the final rule will contribute to the achievement of the National Electricity Objective (NEO) with respect to the efficient operation and use of electricity services in the long-term interests of consumers of electricity, and with respect to the safety and security of the national electricity system. The final rule is likely to promote better identification and assessment of emerging system risks through expanding the scope of the PSFRR into a GPSRR, streamlining the process for the GPSRR and making the review more frequent. The final rule will promote long-term interests of consumers because the direct and indirect costs of a reduction in the security of supply due to a failure to promptly and effectively identify emerging risks can be significant.

16 Further, the Commission is of the view that the need for a comprehensive risk review is now greater than ever, given the changing generation mix that impacts the power system risk and resilience profile. It is in the long-term interests of consumers that emerging risks from all possible sources are identified promptly and are effectively assessed.

### Differences between the draft rule and final rule

17 A limited number of changes have been made between the draft rule and final rule in order to address stakeholder concerns raised through submissions to the draft rule. These changes:

- better manage the potential increase in resources required to conduct the GPSRR, compared to the PSFRR, making sure resources are used efficiently and on priority matters;
- ensure that AEMO has all required data inputs to effectively assess priority risks while maintaining the GPSRR as a proportionate and manageable exercise for all stakeholders, including the NSPs, and
- better link the GPSRR to other planning processes.

18 The changes between the draft rule and final rule are as follows:

- *Specific risk areas:* The Commission has determined to remove the specific risk areas that had been listed in the draft rule. The change was made to avoid ambiguities in the objective of the risk review and potential duplication of other activities. The Commission's expectation is that the GPSRR will leverage off existing arrangements and be a high-level look at risk arrangements, iterating over time.

The Commission acknowledges AEMO's expectation that its costs associated with undertaking the review as specified in the draft rule would increase by approximately \$1.5 million per annum.<sup>5</sup> The Commission subsequently engaged with AEMO to clarify its expectation that AEMO would review, and identify options for current and future management of, only the prioritised set of risks. AEMO would not be required to assess all possible events and conditions that could lead to cascading failure. Further, the final rule provides AEMO with flexibility to assess as many, or as few, priority risks as needed. The expectation is that the number of risks and the level of detail presented in the final reports will change over time, allowing AEMO the flexibility to manage the costs

<sup>5</sup> AEMO, Submission to Implementing a general power system risk review, p. 1.

associated with the GPSRR. While currently the system faces an increased number of risks due to the energy transition, the number of new risks to be assessed is expected to decrease over time. The Commission also expects that AEMO can leverage off its existing work, such as that being undertaken through its Engineering Framework.<sup>6</sup>

- *Consideration of emergency schemes and controls:* The final rule reflects the Commission's expectation that NSPs, through their annual planning reviews, will consider the operation of, and interactions between, emergency control schemes and protection settings on an as-needed and prioritised basis. Consistent with this, the final rule clarifies that NSPs are expected to consider not only known adverse interactions between schemes and controls, but also potential ones where NSPs expect that such operation or interactions would be likely to lead to cascading outages or major supply disruptions, with the NSPs using judgement when assessing such risks.
- *Data provision requirements:* The Commission has decided to reflect in the final rule NSPs' differing levels of involvement in the GPSRR process depending on the stage of the review in order to better manage costs associated with conducting the review. For the purposes of AEMO identifying the priority risks, the data provision requirements on NSPs are limited, drawing primarily on the obligations to consider emergency control schemes and protection systems in annual planning reviews. For the purposes of the assessment of priority risks, NSPs are to provide to AEMO all information and assistance reasonably requested by AEMO, including options for mitigating the priority risks and any information and computer models that AEMO reasonably requires.
- *Consultation process:* The Commission has determined to extend the consultation on the approach paper to 20 business days. To further enhance the consultation process, and promote transparency, the Commission has also determined to require AEMO, in the final report, to include its conclusions in response to any submissions received to the approach paper.
- *Publication of the first GPSRR:* The Commission has decided to extend the transition period and require AEMO to complete the first GPSRR by 31 July 2023. The Commission considers this is appropriate given that the rule change significantly broadens the scope of the existing review. In its submission, AEMO, noted that this would allow them to deliver the last PSFRR in mid-2022 and would also allow the first GPSRR to consider outcomes of Transmission Network Service Providers' annual planning reports to be delivered in October 2022.<sup>7</sup> Further, this timing of the first GPSRR will allow AEMO to consider and have regard to the outcomes of the inaugural GPSRR in conducting the 2024 Integrated System Plan.

## Background and rule change process

The COAG Energy Council submitted this rule change request in response to the recommendation made by the Commission in its BSE review. While the COAG Energy Council did not request the rule change request be fast tracked, the rule change request was

<sup>6</sup> For more information, see: <https://aemo.com.au/initiatives/major-programs/engineering-framework>.

<sup>7</sup> AEMO, Submission to the Implementing a general power system risk review draft determination, p. 7.

consistent with the recommendation made in the BSE review, and that recommendation was made following significant consultation as part of the Commission's BSE review. The Commission therefore determined that a fast track process was appropriate and initiated the rule change process with the publication of a notice on 14 January 2021.

- 20 Fast-tracking means that the rule change process moves straight to the draft determination stage and so, on 4 February 2021, the Commission published a draft determination and draft rule. The Commission's draft determination was to make a more preferable rule largely consistent with the rule proposed by the COAG Energy Council.
- 21 On 22 April 2021, the Commission extended the time to make a final rule. The extra time was necessary due to the complexity of issues involved in the detailed design of the GPSRR process and allowed for further consideration of issues raised by AEMO in response to the draft determination. This extension of time enabled the issues to be considered further through informal consultation with interested parties. The Commission has made its final determination and rule following consideration of the issues raised in stakeholder submissions and at a workshop held on 27 April 2021.<sup>8</sup>

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8 Summary of stakeholder views can be found in Chapter 3. Summary of stakeholder workshop for implementing a general power system risk review can be found here: <https://www.aemc.gov.au/news-centre/media-releases/summary-stakeholder-workshop-implementing-general-power-system-risk-review>.

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# 1 COAG ENERGY COUNCIL'S RULE CHANGE REQUEST

On 26 May 2020, the Australian Energy Market Commission (AEMC or Commission) received a rule change request from the Council of Australian Governments (COAG) Energy Council<sup>9</sup> seeking to implement a General Power System Risk Review (GPSRR) into the National Electricity Rules (NER).

The rule change request sought to enhance the breadth of the sources of risk considered in the existing Power System Frequency Risk Review (PSFRR), increase the speed and frequency of the review and integrate the review with other Australian Energy Market Operator (AEMO) and Network Service Providers (NSPs) planning processes.<sup>10</sup>

The COAG Energy Council's rule change request reflected the recommendation made by the Commission in its *Review of the South Australian Black System Event* report (BSE report).<sup>11</sup>

This chapter outlines:

- context and background,
- a summary of the AEMC's recommendation on reviewing power system risks made in the BSE report,
- the rationale for the rule change request and the solutions proposed,
- an overview of the rule making process, and
- related Commission work.

## 1.1 Context and background

The PSFRR was introduced in 2017 as a part of the Emergency Frequency Control Schemes (EFCS) rule.<sup>12</sup> The PSFRR is an integrated, transparent framework for the consideration and management of frequency risks that AEMO expects would be likely to involve uncontrolled increases or decreases in frequency leading to cascading outages or major supply disruptions associated with non-credible contingencies. It requires AEMO to consider non-credible contingency events<sup>13</sup> that could involve uncontrolled increases or decreases in frequency. The current PSFRR does not oblige AEMO to consider any other non-credible contingency risks to power system security.

The 2017 EFCS rule required AEMO to undertake a PSFRR at least every two years.<sup>14</sup> This was considered appropriate because it mirrored AEMO's current practice of reviewing the existing under frequency load shedding settings every two years.

<sup>9</sup> On 29 May 2020, the Prime Minister announced the establishment of the National Federation Reform Council and the disbanding of the COAG. New arrangements for the former COAG Energy Council will be finalised following the National Cabinet Review of COAG Councils and Ministerial Forums. The Prime Minister has advised that, while this change is being implemented, former Councils may continue meeting as a Ministerial Forum to progress critical and/or well-developed work.

<sup>10</sup> COAG Energy Council, rule change request, p. 1.

<sup>11</sup> For more information, see: <https://www.aemc.gov.au/markets-reviews-advice/review-of-the-system-black-event-in-south-australi>.

<sup>12</sup> National Electricity Amendment (Emergency frequency control schemes) Rule 2017 No. 2.

<sup>13</sup> For the definition of a non-credible contingency event, see box 1.

<sup>14</sup> National Electricity Amendment (Emergency frequency control schemes) Rule 2017 No. 2.

### **BOX 1: SECURE OPERATING ENVIRONMENT**

When the system is operating within the range of acceptable limits, it is considered to be secure. For frequency, the optimal operation of the system is 50 cycles per second, or 50 Hertz. A secure power system is designed to withstand a single credible contingency event.

#### **Contingency events**

A contingency event is defined in clause 4.2.3(a) of the NER as an event that affects the power system in a way which would likely involve the failure or sudden and unexpected removal from operational service of one or more generating units or transmission elements. There are two categories of contingency events: credible contingency events and non-credible contingency events.

#### **Credible contingency events**

Credible contingency events are events the occurrence of which AEMO considers to be reasonably possible in the surrounding circumstances. Examples of credible contingencies are: the unexpected disconnection or unplanned reduction in capacity of an operating generating unit; or the unexpected disconnection of one major item of transmission plant.

#### **Non-credible contingency events**

Non-credible contingency events are contingency events other than credible contingency events. These are generally considered to be events that are rare in occurrence, such as the combination of a number of credible contingency events occurring at the same time. AEMO can re-classify non-credible events as credible when the risk of rare events becomes more likely, including during extreme weather such as bushfires or storms.

#### **Protected events**

A protected event is a non-credible contingency event the Reliability Panel has declared to be a protected event. The category of protected event was introduced in 2017 to give AEMO additional tools to manage certain high consequence non-credible contingency events. Only one protected event has been declared to date. AEMO may use a mixture of ex-ante actions to manage a protected event declared by the Reliability Panel. These actions include the purchase of Frequency Control Ancillary Services, constraining generation dispatch, and the use of an Emergency Frequency Control Scheme in order to maintain the frequency operating standards applicable to protected events.

AEMO must have in place arrangements it considers appropriate to consult with, and take into account the views of, Transmission Network Service Providers (TNSPs) in the conduct of the PSFRR.<sup>15</sup> AEMO is currently required to collaborate with Distribution Network Service Providers (DNSPs) only in limited circumstances. When considering the development of a new, or modification of an existing emergency frequency control scheme, AEMO must also consult with DNSPs whose networks are likely to be affected by the scheme.<sup>16</sup>

<sup>15</sup> Clause 5.20A.2(b) of the NER.

The PSFRR is not formally integrated into broader planning arrangements undertaken by AEMO and NSPs, such as AEMO's Integrated System Plan (ISP) or NSPs' annual planning reviews.

For more information on the existing arrangements for reviewing and managing frequency risks arising from non-credible contingency events, see Appendix A.

## 1.2 South Australian black system event review

On 12 December 2019, the AEMC published a final BSE review report in response to a request from the COAG Energy Council to undertake this review.<sup>17</sup> The report included several recommendations that were designed to enhance the resilience of the power system.

Through its consultation with stakeholders in the review, the Commission identified a number of issues in relation to the current PSFRR.<sup>18</sup> The issues identified relate to:

- **Scope of the PSFRR:** The range of risks currently considered is limited to frequency.
- **Process for conducting the PSFRR:** The requirement to conduct the review every two years takes too long to translate findings into outcomes, for example, an application to the Reliability Panel for declaring a protected event, if needed.
- **Integration of the PSFRR into other planning processes:** The PSFRR is not sufficiently integrated into the broader planning arrangements undertaken by AEMO and NSPs. Further, current arrangements require AEMO to collaborate only with TNSPs but not DNSPs. Therefore, the PSFRR considers the impacts of distributed energy resources (DER) in a limited manner.

The Commission's final BSE review report therefore identified the opportunity to expand the scope of the PSFRR to become a GPSRR. The GPSRR was proposed with the following elements:<sup>19</sup>

- The GPSRR was recommended to consider, and identify options for the future management of, all events and conditions (including contingency events and indistinct events) the occurrence of which AEMO expects, alone or in combination, would be likely to lead to cascading outages, or major supply disruptions.
- The GPSRR should be conducted annually with AEMO required to consult with, and take into account, the views of TNSPs and DNSPs in conducting the review.
- The GPSRR should be integrated into relevant AEMO and NSPs planning processes.

Stakeholder views on the discussion paper proposal for the BSE review to expand the PSFRR into GPSRR were generally supportive, with the main concerns centred around:<sup>20</sup>

- complexity and cumbersome unmanageable processes,

<sup>16</sup> Clause 5.20A.2(c) of the NER.

<sup>17</sup> For more information, see: [https://www.aemc.gov.au/sites/default/files/documents/aemc\\_-\\_sa\\_black\\_system\\_review\\_-\\_final\\_report.pdf](https://www.aemc.gov.au/sites/default/files/documents/aemc_-_sa_black_system_review_-_final_report.pdf)

<sup>18</sup> See section 1.3 for the detailed description of issues identified in the BSE report.

<sup>19</sup> AEMC, Mechanisms to Enhance Resilience in the Power System – Review of the South Australian Black System Event, final report, December 2019, p. 77

<sup>20</sup> *ibid*, p. 84.

- costs, and
- resources involved.

Stakeholders supported inclusion of DNSPs and capturing risks associated with DER in the GPSRR. They also highlighted the importance of integrating the review into existing and future planning processes and including clear linkages.<sup>21</sup>

AEMO supported the recommendation but noted that it is important for there to be flexibility to prioritise different sources of risk in each review, promoting efficiency and value in reporting, and to balance the impacts of operational and institutional changes (such as rule changes) that may alter reporting processes.<sup>22</sup>

### 1.3 Rationale for the rule change request

In its rule change request, the COAG Energy Council agreed with the AEMC that there were a range of shortcomings with the existing PSFRR in light of the changing power system risk and resilience profile. In particular, the PSFRR was identified as being:<sup>23</sup>

1. too narrow - the range of risks it considers are limited to only frequency risks for a range of non-credible contingency events
2. too shallow - it only requires AEMO to collaborate with TNSPs but not DNSPs. This does not provide for detailed consideration of system security risks arising from increased DER penetration
3. too slow - the existing PSFRR process occurs too infrequently and it takes too long to effectively identify emerging risks in a rapidly changing power system, and
4. not integrated - the existing PSFRR is not sufficiently integrated into the broader planning arrangements undertaken by AEMO and NSPs.

Given the changing power system risk and resilience profile, the rule change request proposed changes to the NER to broaden the existing PSFRR beyond frequency to become a more frequent and holistic GPSRR process for effectively identifying emerging risks to the power system from all sources.

### 1.4 Solutions proposed in the rule change request

In relation to the **scope of the review**, the proposed rule would:<sup>24</sup>

- amend existing arrangements for the PSFRR to consider, and identify options for the future management of, all events and conditions (including contingency events) the occurrence of which AEMO expects, alone or in combination, would be likely to lead to cascading outages, or major supply disruptions
- specify six key risk areas which AEMO is required to consider when specifying the scope of the GPSRR in each jurisdiction in which it is conducted:

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<sup>21</sup> *ibid.*

<sup>22</sup> *ibid.*

<sup>23</sup> COAG Energy Council, rule change request, p. 3-4.

<sup>24</sup> *ibid.*, p. 2.

- increases or decreases in frequency;
  - increases or decreases in voltage;
  - levels of inertia;
  - the availability of system strength services;
  - the operation and interaction of special protection schemes; and
  - any other factors AEMO deems appropriate, including those arising on distribution network.
- upon consultation with NSPs, allow AEMO to prioritise certain risks over others, or elect not to consider some of the six key risks.

In relation to the **review process**, the proposed rule would:<sup>25</sup>

- require the GPSRR review to be conducted no less than annually;
- require AEMO to publish an approach paper before the review commences (removing the requirement for AEMO to publish a draft report during the course of the review) which, among other things, would prioritise the risks AEMO proposes to assess in each region, methods for assessing risks, and their approach to collaboration;
- require AEMO to consult on the approach paper for a period of at least 10 working days;
- require AEMO to publish a final report setting out its findings and recommendations, and time and cost of the option's implementation.

In relation to the **links to the other existing planning processes**, the proposed rule would:<sup>26</sup>

- require NSPs to take into account the outcomes from the recent GPSRR in their annual planning reviews;
- require NSPs in their annual planning reviews to:
  - consider whether any special protection schemes and settings of protection systems or control systems of plant connected to its network are fit for purpose for the future operation of its network;
  - assess the interactions between special protection schemes and settings of protection systems or control systems of plant connected to their respective networks, with a view to identifying the potential for adverse interactions;
- require AEMO to consider and have regard to the outcomes of the GPSRR in conducting the ISP.

In the COAG Energy Council's view, the recommended GPSRR would promote the efficient operation and use of electricity services in the long-term interests of consumers of electricity with respect to the safety and security of the national electricity system.<sup>27</sup>

The COAG Energy Council considered that customers would benefit from an improvement in the security of supply from the early identification of emerging risks and uncertainties to the

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<sup>25</sup> *ibid.*

<sup>26</sup> *ibid.*, p 2-3.

<sup>27</sup> *ibid.*, p. 4.

power system thereby enabling their effective and efficient management. It was noted that while the additional costs incurred by NSPs and AEMO in conducting the review would ultimately be borne by consumers, these additional resources are likely to be efficient given the improvement in system security from early identification and prompt management of such risks.<sup>28</sup>

The COAG Energy Council also noted that the proposed review is an incremental expansion on existing arrangements and not a process that needs to be established from scratch. The costs involved are not entirely additional to those that would be incurred in the absence of the rule as all parties can adapt and expand existing processes.<sup>29</sup>

The rule change request (which can be found on the AEMC website) included a proposed rule.<sup>30</sup>

## 1.5 The rule making process

On 14 January 2021, the Commission published a notice advising of its intention to commence the rule making process in respect of the rule change request.<sup>31</sup> The Commission decided to fast-track this rule change request. This is because it concluded that the rule change request reflected the relevant recommendation of the BSE review report and that adequate consultation with the public was undertaken during that review.<sup>32</sup> Accordingly, the AEMC did not publish a consultation paper upon initiation of the rule change process.

On 4 February 2021, the Commission published a draft determination and draft rule. The Commission's draft determination was to make a more preferable rule largely consistent with that proposed by the COAG Energy Council. The policy position outlined in the draft determination was aligned with the COAG Energy Council's rule change request. Differences between the draft rule and the COAG Energy Council's proposed rule were limited, and primarily aimed to maintain the delineation between the existing protected event framework that is designed for management of frequency risks arising from non-credible contingency events, and the assessment of risks associated with all other events and conditions (including contingency events).

The Commission invited submissions from stakeholders on the draft determination and rule, with these due by 18 March 2021. Four submissions were received from stakeholders in response to the draft determination and rule.<sup>33</sup> The submissions are discussed where relevant throughout this determination.

On 22 April 2021, the Commission extended the time to make a final rule. The extra time was necessary due to the complexity of issues involved in the detailed design of the GPSRR process and allowed for further consideration of issues raised by AEMO in its response to the

<sup>28</sup> *ibid*, p. 5.

<sup>29</sup> *ibid*.

<sup>30</sup> <https://www.aemc.gov.au/rule-changes/implementing-general-power-system-risk-review>.

<sup>31</sup> This notice was published under s 95 of the National Electricity Law (NEL).

<sup>32</sup> The decision to fast-track the rule change request was made under section 96A(1)(b) of the NEL.

<sup>33</sup> Submissions were received from the Australian Energy Regulator (AER), AEMO, Public Interest Advocacy Centre, and Citipower, Powercor and United Energy (combined submission).

draft determination, including in relation to how NSPs should interact and interface with AEMO during the preparation for the GPSRR. This extension of time enabled the issues to be considered further through informal consultation with interested parties.

The Commission has made its final determination and rule following consideration of the issues raised in stakeholder submissions and at a workshop with interested stakeholders held on 27 April 2021.<sup>34</sup> The Commission's consideration on these issues is set out in detail in Chapter 3.

## 1.6 Related Commission work

This rule change is part of a wider Commission work program on system security, which includes those rule changes seeking to action the recommendations made by the Commission in its BSE review report. Three rule change requests were submitted by the COAG Energy Council.<sup>35</sup>

- Implementing a general power system risk review rule change request (the subject of this final determination);
- Enhancing operational resilience in relation to indistinct events;
- Prioritising arrangements for system security during market suspension.

The other two rule change projects related to this final determination are discussed at a high level in Appendix B.

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34 Summary of stakeholder views can be found in chapter 3. Summary of stakeholder workshop for implementing a general power system risk review can be found here: <https://www.aemc.gov.au/news-centre/media-releases/summary-stakeholder-workshop-implementing-general-power-system-risk-review>.

35 On 29 May 2020, it was announced that the Council of Australian Government (COAG) will cease and a new National Federation Reform Council (NFRC) will be formed, with National Cabinet at the centre of the NFRC.

## 2 FINAL RULE DETERMINATION

This chapter sets out the Commission's final determination with a summary of reasons.

Specifically, this chapter includes the:

- final rule determination and differences between the draft and final rule;
- rule making test;
- assessment framework used;
- summary of the Commission's reasons;
- transitional arrangements.

The Commission's considerations of the key aspects of the proposed rule are described in Chapter 3, which provides additional details supporting the Commission's final determination.

### 2.1 The Commission's final rule determination

This section sets out the Commission's final rule determination and differences between the Commission's draft rule and final rule.

#### 2.1.1 Description of the final rule

The Commission has determined to make a more preferable final rule that addresses the issues raised by the proponent in its rule change request. The final rule made by the Commission is published with this final rule determination. The key features of the final rule are set out in summary below and in more detail in Table 1:

- It implements a holistic GPSRR process, to effectively identify emerging material risks to power system security from all sources.
- The final rule requires AEMO to, in respect of a prioritised set of risks that are determined by AEMO review:
  - non-credible contingency events the occurrence of which AEMO expects, alone or in combination, would be likely to involve uncontrolled increases or decreases in frequency leading to cascading outages or major supply disruptions; and
  - events and conditions not referred to above (including contingency events and events and conditions arising on distribution networks) the occurrence of which AEMO expects, alone or in combination, would be likely to lead to cascading outages, or major supply disruptions as part of the GPSRR.
- The GPSRR will be an annual review, integrated with existing planning frameworks that will involve AEMO, TNSPs, and DNSPs transparently assessing risks to power system security. These will increase the transparency of emerging system security risks that may need to be managed, helping AEMO, NSPs and market participants better understand the nature of new risks as they emerge.
- The GPSRR process will include the following steps:
  - In consultation with NSPs, AEMO determines a prioritised set of risks to be assessed in the review;

- AEMO publishes and publicly consults on an approach paper which sets out the system security risks it proposes to prioritise for a detailed assessment and the proposed methods for assessing the prioritised risks;
- AEMO conducts a detailed review of the priority risks including using more detailed data inputs from NSPs where needed;
- AEMO publishes a final GPSRR report setting out its findings and recommendations.
- The final rule requires NSPs to consider the operation of, and any known or potential interactions between, any emergency frequency control schemes or emergency controls on their network; and protection systems or control systems of plant connected to their respective networks and consider including consideration of whether they are fit for purpose for the future operation of the network, where the NSP expects that such operation or interactions would be likely to lead to cascading outages or major supply disruptions.
- NSPs must provide to AEMO information and assistance reasonably requested by AEMO for the purposes of the GPSRR. In respect of the prioritised set of risks, this may include any options the NSP has identified for mitigating the priority risks, and any information and computer models that AEMO reasonably requires.
- AEMO must complete the first GPSRR by 31 July 2023. Schedule 1 of the final rule commences on 10 January 2022 in order for NSPs' annual planning review processes to be aligned with the process for the preparation of the first GPSRR.

The Commission expects that only limited number of priority risks will be assessed in depth through each GPSRR. The GPSRR will be a tool to monitor risks over time and is not intended to present assessments of all potential system risks in detail. The GPSRR will be based on a high-level look at risk arrangements, iterating over time. This means that the selection of risks should be prioritised on a case by case basis reflecting what risks may be more material at a particular point in time. AEMO is also expected to leverage off existing arrangements to ensure resources are managed efficiently and are focused on priority matters.

The key features of the more preferable final rule are set out in the table below.

**Table 2.1: Elements of the final rule**

<b>RULE ELEMENTS</b>	<b>FINAL RULE REQUIREMENTS</b>	<b>COMPARISON WITH THE PROPOSED RULE</b>
<b>Scope of the GPSRR</b>	<p>AEMO must determine the priority risks for a general power system risk review.</p> <p>In respect of the priority risks, AEMO must review:</p> <ul style="list-style-type: none"> <li>• non-credible contingency events the occurrence of which AEMO expects would be likely to involve uncontrolled changes in frequency leading to cascading outages, or major supply disruptions</li> <li>• other events and conditions (including contingency events) the occurrence of which AEMO expects, alone or in combination, would be likely to lead to cascading outages, or major supply disruptions, and</li> <li>• current and future arrangements for management of the events and conditions mentioned above.</li> </ul> <p>The Commission expects that the GPSRR will leverage off existing arrangements and be based on a high-level look at risk arrangements, iterating over time. The GPSRR will be a tool to monitor risks over time at a high-level with only limited number of prioritised risks to be assessed in depth through each GPSRR</p>	<p>The following changes were made to the proposed rule:</p> <ul style="list-style-type: none"> <li>• the specific risk areas that had been listed in the proposed rule are removed from the final rule. The change was made to avoid potential duplication of other activities, and</li> <li>• it is clarified in the final rule that AEMO must review, and identify options for current and future management of, only the prioritised set of identified risks. AEMO would not be required to assess all possible events and conditions that could lead to cascading failure</li> <li>• the final rule requires AEMO to consider only non-credible contingency events in relation to frequency risks. The change aims to maintain the current frameworks for the consideration of frequency risks (the protected events and EFCS frameworks).</li> </ul>
<b>Process for the GPSRR</b>	<p>AEMO must:</p> <ol style="list-style-type: none"> <li>1. undertake a GPSRR no less than annually</li> <li>2. for the purposes of identifying the priority risks to be assessed, consult with, and take into account, the views of relevant TNSPs and DNSPs in the conduct of a GPSRR</li> </ol>	<p>In relation to the AEMO obligations, the following changes were made to the proposed rule:</p> <ul style="list-style-type: none"> <li>• The requirement for submissions to be written is removed. This change was made to provide AEMO and stakeholders with some flexibility in relation to the</li> </ul>

RULE ELEMENTS	FINAL RULE REQUIREMENTS	COMPARISON WITH THE PROPOSED RULE
	<ol style="list-style-type: none"> <li>3. publish an approach paper at the commencement of the review specifying:               <ol style="list-style-type: none"> <li>a. the priority risks to be assessed in the review and an explanation for why AEMO considers those priority risks should be priorities for assessment,</li> <li>b. the approach and methodologies used in assessing each priority risk,</li> <li>c. information inputs and assumptions used in assessing priority risks, and,</li> <li>d. AEMO's approach to consulting with relevant parties in conducting the review.</li> </ol> </li> <li>4. invite submissions within a period of at least 20 days following publication of the GPSRR approach paper, and</li> <li>5. publish a single final report at the conclusion of the GPSRR.</li> </ol> <p>NSPs must:</p> <ol style="list-style-type: none"> <li>1. provide to AEMO information and assistance reasonably requested by AEMO for the purposes of AEMO identifying the priority risks to be assessed, taking into account any analysis conducted as part of their annual planning reviews, and</li> <li>2. provide to AEMO all information and assistance reasonably requested in respect of the prioritised set of risks, including:               <ol style="list-style-type: none"> <li>a. any options the NSP has identified for mitigating the priority risks, and</li> </ol> </li> </ol>	<p>consultation process.</p> <ul style="list-style-type: none"> <li>• The consultation period was extended to 20 business days to allow stakeholders to meaningfully engage with AEMO on complex technical matters.</li> <li>• To further enhance the consultation process, AEMO was required, in the GPSRR final report, to include its conclusions in response to any submissions received to the approach paper.</li> </ul> <p>In relation to NSPs obligations, the following change was made to the proposed rule:</p> <ul style="list-style-type: none"> <li>• The extent of NSPs' involvement in the GPSRR process was clarified. For the purposes of AEMO identifying the priority risks, the data provision requirements on NSPs are limited, drawing primarily on the findings in annual planning reviews. For the purposes of the assessment of priority risks, NSPs are to provide to AEMO all information and assistance reasonably requested by AEMO, including options for mitigating the priority risks and any information and computer models that AEMO reasonably requires.</li> </ul>

RULE ELEMENTS	FINAL RULE REQUIREMENTS	COMPARISON WITH THE PROPOSED RULE
	<p>b. any information and computer models that AEMO reasonably requires.</p> <p>The Commission's intent is that, as part of the initial consultation and for the purposes of the approach paper, NSPs would provide to AEMO their views and findings from their annual planning reviews in relation to the potential risks. NSPs are not expected to perform major system modelling at this initial stage. For the purposes of the assessment of the prioritised risks and in the preparation of the final report, NSPs must provide AEMO with all information reasonably required by AEMO, including options the NSP has identified for mitigating the priority risks and providing any computer models that AEMO reasonably requires.</p>	
<b>Coordination and integration</b>	<ol style="list-style-type: none"> <li>1. NSPs, in their annual planning reviews, must:               <ol style="list-style-type: none"> <li>a. take into account the outcomes from the recent GPSRR</li> <li>b. consider the operation of, and any known or potential interactions between any emergency frequency control schemes or emergency controls; and protection systems or control systems of plant connected to its network (including consideration of whether the settings of those systems are fit for purpose for the future operation of their network).</li> <li>c. where the NSP expects that such operation or interactions would be likely to lead to cascading outages or major supply disruptions</li> </ol> </li> <li>2. AEMO must consider and have regard to the outcomes of the GPSRR in conducting the ISP.</li> </ol>	<p>In relation to the requirement for NSPs to consider emergency frequency control schemes or emergency controls, the Commission has determined to amend the rule drafting to clarify the following:</p> <ul style="list-style-type: none"> <li>• the use of "consider" is intended to indicate that a proportionate approach should be taken in reviewing the schemes and controls.</li> <li>• schemes and controls must be reviewed in their totality where this is warranted. Therefore, in the final rule, "settings" was substituted with "operation".</li> <li>• NSPs are expected to consider not only known adverse interactions between and schemes and controls but also potential ones where NSP expects that such operation or interactions would be likely to lead to major supply</li> </ul>

RULE ELEMENTS	FINAL RULE REQUIREMENTS	COMPARISON WITH THE PROPOSED RULE
	<p>The Commission does not expect NSPs to review all schemes and controls on a yearly basis as this is likely to be disproportionate. The intent is for the schemes and controls to be reviewed as needed and on a prioritised basis</p>	<p>disruptions.</p> <p>References to “Special protection schemes” in the proposed rule have been substituted in the final rule with “emergency frequency control schemes” and “emergency controls”. This is because these terms are used elsewhere in the NER.</p>
<b>New Chapter 10 terms</b>	<p>The General Power System Risk Review is defined in Chapter 10 of the NER as follows:</p> <p>“A review described in clause 5.20A.1”</p> <p>The Power System Frequency Risk Review definition in Chapter 10 is omitted.</p>	<p>The proposed rule did not include a new Chapter 10 definition.</p>
<b>Transitional Arrangements</b>	<p>AEMO must complete the first GPSRR by 31 July 2023. Schedule 1 of the final rule commences on 10 January 2022 in order for NSPs’ annual planning review processes to be aligned with the process for the preparation of the first GPSRR.</p> <p>AEMO must complete the last PSFRR by 31 July 2022 and NSP’s must provide AEMO with all information and assistance reasonably requested by AEMO in connection with this PSFRR.</p>	<p>The proposed rule did not include transitional rules</p>

### 2.1.2

#### Differences between the final rule and the draft rule

The final rule varies from the draft rule with some changes to the rule to address stakeholder concerns raised through submissions to the draft rule. These changes:

- better manage the potential increase in resources required to conduct the GPSRR, compared to the PSFRR, making sure resources are used efficiently and on priority matters;
- ensure that AEMO has all required data inputs to effectively assess priority risks while maintaining the GPSRR as a proportionate and manageable exercise for all stakeholders, including the NSPs, and
- better link the GPSRR to other planning processes.

The changes between the draft rule and final rule are as follows:

- *Specific risk areas:* The Commission has determined to remove the specific risk areas that had been listed in the draft rule. The change was made to avoid ambiguities in the objective of the risk review and potential duplication of other activities. The Commission's expectation is that the GPSRR will leverage off existing arrangements and be a high-level look at risk arrangements, iterating over time.
- The Commission acknowledges AEMO's expectation that its costs associated with undertaking the risk review as specified in the draft rule would increase by approximately \$1.5 million per annum.<sup>36</sup> The Commission subsequently engaged with AEMO to clarify its expectation that AEMO would review, and identify options for current and future management of, only the prioritised set of identified risks. AEMO would not be required to assess all possible events and conditions that could lead to cascading failure. Further, the final rule provides AEMO with flexibility to assess as many, or as few, priority risks as needed. The expectation is that the number of risks and the level of detail presented in the final reports will change over time, allowing AEMO the flexibility to manage the costs associated with the GPSRR. While currently the system faces the increased number of risks due to the energy transition, the number of new risks to be assessed is expected to decrease over time. The Commission also expects that AEMO can leverage off its existing work, such as that being undertaken through its Engineering Framework.<sup>37</sup>
- *Consideration of emergency schemes and controls:* The final rule reflects the Commission's expectation that NSPs, through their annual planning reviews, will consider the operation of, and interactions between, emergency control schemes and protection settings on an as-needed and prioritised basis. Consistent with this, the final rule clarifies that NSPs are expected to consider not only known adverse interactions between schemes and controls, but also potential ones where NSPs expect that such operation or interactions would be likely to lead to cascading outages or major supply disruptions, with the NSPs using judgement when assessing such risks.

<sup>36</sup> AEMO, Submission to implementing a general power system risk review , p. 1.

<sup>37</sup> For more information, see: <https://aemo.com.au/initiatives/major-programs/engineering-framework>.

- *Data provision requirements:* The Commission has decided to reflect in the final rule NSPs' differing levels of involvement in the GPSRR process depending on the stage of the review in order to better manage costs associated with conducting the review. For the purposes of AEMO identifying the priority risks, the data provision requirements on NSPs are limited, drawing primarily on the obligations to consider emergency control schemes and protection systems in annual planning reviews. For the purposes of the assessment of priority risks, NSPs are to provide to AEMO all information and assistance reasonably requested by AEMO, including options for mitigating the priority risks and any information and computer models that AEMO reasonably requires.
- *Consultation process:* The Commission has determined to extend the consultation on the approach paper to 20 business days (as compared to 10 business days in the draft rule). To further enhance the consultation process, and promote transparency, the Commission has also determined to require AEMO, in the final report, to include its conclusions in response to any submissions received to the approach paper.
- *Publication of the first GPSRR:* The Commission has decided to extend the transition period and require AEMO to complete the first GPSRR by 31 July 2023 (as compared to a requirement in the draft rule to complete the first GPSRR within 18 months of the rule commencement date). The Commission considers this is appropriate given that the rule change significantly broadens the scope of the existing review. In its submission AEMO noted that this would allow AEMO to deliver the last PSFRR in mid-2022 and would also allow the first GPSRR to consider outcomes of TNSP's APRs to be delivered in October 2022<sup>38</sup>. Further this timing of the first GPSRR will allow AEMO to consider and have regard to the outcomes of the inaugural GPSRR in conducting the 2024 Integrated System Plan.

These changes to the proposed rule do not materially alter the intent of the Commission's recommendation from the BSE report nor the policy position reflected in the rule change request. The final rule is broadly consistent with the proposed rule in respect of the GPSRR scope, frequency and coordination and integration of planning arrangements.

## 2.2

### 2.2.1

## Rule making test

### Achieving the NEO

Under the NEL the Commission may only make a rule if it is satisfied that the rule will, or is likely to, contribute to the achievement of the national electricity objective (NEO).<sup>39</sup> This is the decision making framework that the Commission must apply.

The NEO is:<sup>40</sup>

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:

<sup>38</sup> AEMO, Submission to the Implementing a general power system risk review draft determination p.2.

<sup>39</sup> Section 88 of the NEL.

<sup>40</sup> Section 7 of the NEL.

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

The Commission considers that the relevant aspects of the NEO are the efficient operation and use of electricity services in the long-term interests of consumers of electricity with respect to the safety and security of the national electricity system because:

- the objective of the GPSRR is to promptly identify and assess emerging risks to power system security from all possible sources, and
- the direct and indirect costs to consumers of a reduction in the security of supply due to a failure to promptly and effectively identify emerging risks can be significant.

### 2.2.2 Making a more preferable rule

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

In this instance, the Commission has made a more preferable rule. The Commission considers that the changes made to the rule will better contribute to the achievement of the NEO. The reasons are summarised in Section 2.4 and detailed further in Chapter 3.

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

### 2.2.3 Making a differential rule

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

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

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

As the proposed rule related to parts of the NER that apply in the Northern Territory, the Commission has assessed the rule against additional elements required by the Northern Territory legislation.<sup>41</sup>

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<sup>41</sup> From 1 July 2016, the NER, as amended from time to time, apply in the NT, subject to derogations set out in regulations made under NT legislation adopting the NEL. Under those regulations, only certain parts of the NER have been adopted in the NT (see the AEMC website for the NER that applies in the NT, National Electricity (Northern Territory) (National Uniform Legislation) Act 2015).

The Commission has determined not to make a differential rule. However, as some parts of Chapter 5 of the NER apply in the Northern Territory, some of the amendments made by this rule change will have application in the Northern Territory. The rules relating to the general power system review will not apply in the Northern Territory and therefore the changes to Chapter 10 made by this rule will also not apply. However, some of the changes to the NSP planning arrangements will apply, as modified. The Northern Territory modification regulations modify the application of certain provisions of the NER as it applies in the Northern Territory, and therefore, further changes may be required to those regulations as a result of this rule change. The Commission will liaise with the Northern Territory in this regard.

## 2.3 Assessment framework

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

- **Effective risk identification and assessment:** The power system's transition to supply provided predominately by intermittent renewable generation and the closure of existing synchronous generation is changing the power system's risk and resilience profile. New risks are emerging as this process occurs. A risk assessment framework should aim to account for the full range of possible risks to power system security and safety. It should also constitute an integrated, transparent framework that allows recommendations to be developed for addressing all risks in a systematic manner.
- **Transparency and clear accountabilities:** A risk assessment framework should promote clear accountabilities and effective coordination among all parties responsible for managing the changing power system risk and resilience profile. Any new components of the risk assessment framework should be accounted for in the planning processes carried out by AEMO and NSPs. This may assist in the implementation of the lowest cost management processes overall.
- **Flexibility and efficiency:** There should be flexibility to prioritise certain risks over others when undertaking a risk assessment. Some risks may not be relevant in the region being considered or cease to be relevant, while others as yet unidentified will assume greater importance. This flexibility would allow AEMO and NSPs to make the most efficient use of resources in responding to the most pressing risks present in a particular region of the NEM. Further, given the pace of regulatory reform, it is important to ensure that the processes adopted for the risk review, including consultation process, are flexible enough and do not impose unnecessary or extended procedural steps. Allowing a certain level of flexibility would promote efficiency and value in reporting.

## 2.4 Summary of reasons

The Commission has determined to make a more preferable final rule on the basis that the more preferable rule is likely to better contribute to the achievement of the NEO than the proposed rule. In making its final rule determination and more preferable final rule, the Commission made some changes to the proposed rule submitted by the proponent.

These changes do not materially alter the intent of the Commission's recommendation from the BSE review report or to the policy position reflected in the rule change request. The more preferable final rule is broadly consistent with the proposed rule in respect of the GPSRR scope, frequency and coordination and integration of planning arrangements.

This section summarises the Commission's reasons for making the more preferable final rule including consideration of how it better contributes to the achievement of the NEO than the proposed rule.<sup>42</sup>

### **Effective risk identification and assessment**

The Commission has determined that the more preferable final rule is likely to promote better identification and assessment of emerging system risks through expanding the scope of the PSFRR into a GPSRR, streamlining the process for the GPSRR and making the review more frequent. This is because:

1. Individual system services are frequently capable of addressing more than one system need. A coordinated assessment of all system security risks, through the GPSRR, could assist in a more efficient deployment of system services to address system needs.
2. Including the ability to consider events and conditions on distribution networks in the GPSRR would provide better visibility of the performance of DER and inform AEMO's understanding of the effectiveness of emergency response mechanisms.
3. A streamlined, more frequent review process would allow AEMO to quickly identify emerging risks in order to effectively manage them.

The Commission considers that the more preferable final rule is likely to achieve the NEO through promoting effective system security risk identification and assessment.

These risks would be identified in a more timely manner, although the Commission acknowledges that some additional costs may be incurred through the requirement for annual reviews. However, the Commission has sought to create flexibility in the final rule, such that costs are minimised in analysing risks and reflect the relative importance of various risks.

### **Transparency and clear accountabilities**

The Commission has determined that the more explicit links between NSP annual planning reviews, the ISP and GPSRR would promote transparency of planning processes and clear accountabilities of parties involved in the system security risk management. In the Commission's view, the more preferable final rule is likely to:

- assist in the implementation of the lowest cost management processes overall;
- allow AEMO to more fully consider risks arising from increasing DER;
- provide for capturing the learnings from a GPSRR in broader NEM planning and reporting processes, and
- assist in the identification of regulatory changes required to manage risks that are not recognised under the existing risk management frameworks.

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<sup>42</sup> Further detail on the Commission's reasons for making the final rule in each of these areas are presented in Chapter 3.

The Commission considers that the more preferable final rule will contribute to the achievement of the NEO as it promotes coordination among parties responsible for system security and resilience and coordinated management of the identified risks.

### **Flexibility and efficiency**

The more preferable final rule would allow flexibility for AEMO to prioritise certain risks over others when undertaking the GPSRR, as well as adapt to the changing power system. AEMO would not be required to identify or undertake a detailed assessment of all conceivable risks. Some risks may not be relevant in the region being considered or cease to be relevant, while others as yet unidentified will assume greater importance.

The Commission considers that such flexibility would:

- allow AEMO and NSPs to make the most efficient use of resources in responding to the most pressing risks present in a particular region of the NEM, and
- promote efficiency and value in reporting.

The Commission has determined that the more preferable final rule will promote the NEO as it will allow for efficient allocation of resources. This will provide for the greatest possible value to come from the review and the investment of resources in conducting the review.

### **More preferable final rule**

The Commission has made a change to the COAG Energy Council's proposed rule by retaining the requirement for AEMO to consider non-credible contingency events for the risks associated with frequency variations (as is currently the case), and all events and conditions (including contingency events) for all other types of risks, that AEMO considers are likely to lead to cascading outages or major supply disruptions. The Commission considers that this change better:

- maintains the delineation between the existing protected event framework that is designed for management of frequency risks arising from non-credible contingency events, and the assessment of risks associated with all other events and conditions (including contingency events), and
- recognises the existing arrangements that allow AEMO to manage frequency risks associated with credible contingency events through the frequency control ancillary services (FCAS) markets.

The Commission has determined that the more preferable final rule promotes the NEO as it aligns with other parts of the regulatory framework without making any unintended changes to them.

## **2.5 Transitional arrangements**

The proposed rule submitted by the COAG Energy Council did not include any proposed transitional arrangements for the first GPSRR.

The more preferable rule made by the Commission clarifies that the requirement to undertake the GPSRR would replace the requirement to undertake the PSFRR. The more

preferable final rule sets out transitional arrangements for the first GPSRR requiring AEMO to complete the first GPSRR by 31 July 2023, and for the last PSFRR to be completed by 31 July 2022.

The draft rule required AEMO to complete the first review within 18 months of the date the rule is made and did not envisage a publication of another PSFRR. However, given that this would require AEMO commencing preparation for the first GPSRR immediately after the rule is made with its current resources and the fact that AEMO has already commencing planning for the delivery of the PSFRR by mid-2022, the Commission has decided to further extend the transition period in the final rule. Given stakeholder views and the fact that the rule change significantly broadens the scope of the existing review, the Commission considers the extended period is required for AEMO to:

- complete the last PSFRR by mid-2022,
- in the first GPSRR, consider any outcomes of NSP annual planning reviews to be reported on in late 2022, and
- develop methodologies and assumptions, consult with stakeholders and assess identified risks and options to manage them.

In the interim, the power system risks could be assessed through other activities, such as AEMO's Engineering Framework<sup>43</sup> and the PSFRR.

Schedule 1 of the final rule commences on 10 January 2022 in order for NSPs' annual planning review processes to be aligned with the process for the preparation of the first GPSRR. This will allow the 2023 GPSRR to draw on NSPs' consideration of emergency control schemes and protection systems in the 2022 annual planning reviews, but avoids the introduction of new obligations on NSPs midway through their 2021 annual planning reviews.

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<sup>43</sup> For more information, see: <https://aemo.com.au/initiatives/major-programs/engineering-framework>.

## 3 COMMISSION CONSIDERATIONS

This chapter sets out the Commission's considerations and analysis in forming its final determination. The Commission's considerations are divided into the following sections:

- scope of and requirements for the GPSRR,
- the GPSRR process, and
- links to the existing planning processes.

### 3.1 Scope of and requirements for the GPSRR

#### **BOX 2: FINAL DETERMINATION ON THE INTRODUCTION OF THE GPSRR AND ITS SCOPE**

The Commission's final determination is to implement the General Power System Risk Review and require AEMO to identify priority risks. In respect of the priority risks, AEMO must review:

- non-credible contingency events the occurrence of which AEMO expects would be likely to involve uncontrolled increases or decreases in frequency, alone or combination, leading to cascading outages, or major supply disruptions;
- other events and conditions (including contingency events) the occurrence of which AEMO expects, alone or in combination, would be likely to lead to cascading outages, or major supply disruptions;
- current, and options for future, arrangements for the management of the priority risks.

The Commission's expectation is that, in conducting the GPSRR, AEMO will prioritise certain risks over others, or elect not to consider some of the risks. AEMO will be required to consult on its choice of risks and provide its response to any submissions received. This consultation should occur following publication of an approach paper.

The Commission expects that the GPSRR will leverage off existing arrangements and be based on a high-level look at risk arrangements, iterating over time. The GPSRR will be a tool to monitor risks over time at a high-level, with only limited number of priority risks to be assessed in depth through each GPSRR.

The proposed approach allows for a broader range of risks, in addition to the frequency risks, to be considered by AEMO, while making sure that resources are used efficiently and are focussed on priority matters.

#### 3.1.1

##### **Issue raised**

AEMO is currently required to publish a PSFRR focused on frequency risks only. In collaboration with TNSPs, AEMO must consider non-credible contingency events that involve

uncontrolled increases or decreases in frequency, leading to cascading outages or major supply disruptions.<sup>44</sup> The current PSFRR does not consider any other non-credible contingency risks to power system security.

In the rule change request, the COAG Energy Council noted that it considers that the set of system security risks is changing and are significantly different to those managed in the past. According to the Council, the changing generation mix is changing the power system risk and resilience profile which includes increasing levels of:<sup>45</sup>

- generation and load risk and uncertainty - The changing generation mix is changing both the events and types of uncertainty regarding generation output. Unlike the failure of thermal generators, unexpected variation from variable generation is often not related to internal failure of the unit, but rather involves weather conditions, such as changes in sunlight intensity or wind speeds. These changes are generally distributed and can affect a significant number of units and systems in a surrounding area. This means that system security risks may arise from an external event, such as a storm front passing across a region, and require the aggregate impact across all the generating units in the affected area to be considered, rather than the loss of a specific unit.
- system response risk and uncertainty - In addition to new types of generation and load uncertainty, the response of the power system itself to disturbances is also becoming more uncertain. This increase in uncertainty is due to factors including a reduction in the level of inertia and fault level as synchronous units have retired, as well as a more complex demand side, due to an increased prevalence of DER. Other factors, such as increasing prevalence of network protection schemes, also increase the complexity and therefore the uncertainty, of power system response to a disturbance.

Given these changes, the COAG Energy Council was of the view that a risk assessment framework should account for the full range of risks to power system security. To achieve this, the COAG Energy Council therefore proposed to require AEMO to consider six key risk areas and identify options for the future management of all events and conditions (including contingency events) which would likely lead to cascading outages, or major supply disruptions.<sup>46</sup> These key six areas were:<sup>47</sup>

1. power system frequency risks (as currently considered in the PSFRR);
2. power system voltage risks;
3. risks arising from system strength;
4. risks arising from levels of synchronous inertia;
5. risks arising from the effect of DER penetration and the potential for DER to increase the probability of cascading outages or major supply disruptions, and
6. risks arising from interactions between settings on Emergency Frequency Control schemes and connected plant control and protection schemes.

<sup>44</sup> Clause 5.20A.1(a)(1) of the NER.

<sup>45</sup> COAG Energy Council, rule change request, p. 3.

<sup>46</sup> *ibid*, p. 1.

<sup>47</sup> *ibid*, pp. 1-2.

The COAG Energy Council proposed to provide AEMO with flexibility to prioritise certain risks over others or elect not to consider some of the six key risks. In establishing priorities, AEMO would be required to consult with both TNSPs and DNSPs.<sup>48</sup>

### 3.1.2

#### Commissions Draft Determination

In the draft determination, the Commission explained that it considered that the introduction of a GPSRR would allow for the effective recognition of emerging risks, and faster development of solutions to address these risks.

#### **Better coordination of system risks and services**

The Commission considered any framework that seeks to describe system security arrangements should aim to account for as many risks to power system security as possible. The PSFRR specifically considers non-credible contingency events associated with frequency risks. However, this may not capture all possible risks in the NEM.

The NER outlines, and AEMO operationalises, system security services and mechanisms that respond to meet the system needs of the NEM to survive and recover from different types of disturbances. These may be grouped into three broad categories of frequency management, voltage management and system restoration. AEMO is also required to consider the minimum inertia<sup>49</sup> and minimum fault level<sup>50</sup> requirements of the power system and declare shortfalls where these are identified.

While the system needs outlined above are detailed separately, individual system services are frequently capable of addressing more than one system need. There are overlaps and interplays between the benefits system services may provide for system security, while a deficiency in one system service may lead to issues in several system need categories. A coordinated assessment of all system security risks, through the GPSRR, could therefore assist in a more efficient deployment of system services to address system needs.

The Commission considered that the risk assessment framework would benefit from the Rules being amended to expand the scope of the current PSFRR to require AEMO to undertake the GPSRR that considers a broader range of risks, in addition to frequency risks. Therefore, the Commission's draft determination was to implement the GPSRR into the regulatory framework.

Further, the Commission agreed with the COAG Energy Council that there would be a benefit from evaluating risks arising from contingency events in addition to non-credible contingency events.<sup>51</sup> The Commission was of the view that emerging risks that are not identified cannot be effectively managed. The GPSRR should focus on creating a comprehensive stock-take of all security related risks existing in the NEM. This would provide AEMO with some flexibility to

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48 Ibid. p. 2.

49 Clause 5.20B.2 of the NER.

50 Clause 5.20C.1 of the NER.

51 With the exception of frequency risks, where there are already robust mechanisms in place to identify and manage risks associated with credible contingency events. This is discussed in detail on p. 29.

explore all kinds of risks in the NEM and flag to stakeholders what the options would be to address them.

The Commission considered that the GPSRR could be a suitable tool for AEMO to identify and flag to stakeholders what kind of risks (if there are any) could not be addressed through the existing risk management frameworks and what regulatory changes are required to manage those risks.

### **Consideration of risks associated with DER**

AEMO has identified that high DER penetration, in particular small rooftop PV, may have increasing implications for the secure operation of the system.<sup>52</sup> The Commission considered that the existing PSFRR may not fully consider the impact of DER on system security outcomes.

Existing arrangements for the PSFRR require AEMO to put in place arrangements to consult with and take into account the views of TNSPs in conducting the PSFRR.<sup>53</sup> While consultation with DNSPs is not precluded by existing rule arrangements, the omission of a requirement to explicitly consult with DNSPs may mean that risks associated with increasing levels of DER penetration are not fully considered.

The draft rule required AEMO to collaborate with both TNSPs and DNSPs in developing the GPSRR. This included a requirement for consideration of risks related to increased DER penetration, both in terms of how DER might exacerbate events that have occurred on the transmission system, and whether increased DER could itself potentially trigger events on the transmission system. The Commission considered that this would provide better visibility of the performance of DER during contingency events.

Further, given that as part of the PSFRR AEMO is already required to consider the effective functioning of under-frequency load shedding schemes and over frequency generator shedding schemes, including consideration of DER in the GPSRR would better inform AEMO's understanding of emergency response mechanisms' effectiveness.

### **Differences between the proposed rule and more preferable draft rule**

The Commission made a change to the proposed rule to clarify the scope of the GPSRR and ensure that the draft rule was consistent with the existing frameworks.

The draft rule required AEMO to review:

- non-credible contingency events for the risks associated with frequency increases or decreases (as currently is the case), and
- events and conditions (including contingency events) for all other risks.<sup>54</sup>

The Commission considered that the more preferable draft rule better promoted the NEO because:

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<sup>52</sup> AEMO's Technical Integration of Distributed Energy Resources 2019, p. 4.

<sup>53</sup> Clause 5.20A.2(b) of the NER.

<sup>54</sup> Other Risks include increases or decreases in voltage, levels of inertia, the availability of system strength services, and the operation and interaction of emergency frequency control schemes and emergency controls.

1. The existing PSFRR is an important component of the protected event framework that is designed for management of frequency risks arising from non-credible contingency events. Through the PSFRR, AEMO identifies non-credible contingency events which it considers it may be economically efficient to manage using certain ex-ante measures.<sup>55</sup> AEMO then submits a request to the Reliability Panel to have the event declared to be a “protected event”.<sup>56</sup>

The Commission considered it is important to ensure that no changes are made to the protected event framework through this rule change process. The clarity should be maintained in the Rules that the GPSRR would become an important component of the protected event framework, substituting for the PSFRR.

The Commission considered there should be a clear delineation in the Rules between two roles of the GPSRR: as a component of the protected event framework and as a comprehensive stock-take review of all security related risks existing in the NEM.

2. Under the current Rules, AEMO is required to maintain the power system frequency within the operational frequency tolerance band when reasonably possible disturbances occur and must return the frequency to the normal operating frequency band within a specified time period. These reasonable disturbances are credible contingency events which AEMO manages through the procurement of contingency raise and lower FCAS. These services increase or decrease the frequency in response to these frequency variations.

Given this existing mechanism, the Commission did not see a rationale in requiring AEMO to review risks associated with credible contingency events for frequency variations and identifying options to address those risks

### 3.1.3

#### Stakeholder views

All four submissions received to the draft determination supported the Commission introducing the GPSRR.<sup>57</sup> Further, the AER, PIAC, and CitiPower, Powercor and United Energy (combined submission) supported the scope of the review as specified in the draft rule.

In its submission, AEMO suggested:<sup>58</sup>

- Removing specificity from risk areas in the draft rule. AEMO considered that the risk areas specified in the rule may lead to ambiguities in the objective of the risk review. AEMO was of the view that a number of the specified event types in the rule would require AEMO to include risks that are already considered and addressed in other bodies of work.
- Implementing changes to the protected event framework to enable a parallel process which does not rely on publication of a risk review, to maximise the efficiency and effectiveness of the protected events mechanism.

<sup>55</sup> The measures may include a new or modified Emergency Frequency Control Scheme.

<sup>56</sup> For more information, see section 1.2.

<sup>57</sup> Submissions to the draft determination: AER, p. 1; AEMO, p. 1; CitiPower Powercor United (combined submission), p. 1; PIAC, p. 1.

<sup>58</sup> AEMO, Submission to the *Implementing a general power system risk review* draft determination, p. 1-2.

During a stakeholder workshop held on 27 April 2021, stakeholders also agreed that some parts of the draft rule could be interpreted as requiring AEMO to first assess all possible events and conditions that could lead to cascading failure, before selecting priority risks. The view was expressed that this would need to be addressed in the final rule, to keep the GPSRR manageable for both AEMO and NSPs.<sup>59</sup>

In relation to the resources needed to undertake the GPSRR, AEMO noted that its preliminary expectation is that AEMO's costs associated with the risk review would increase by approximately \$1.5 million per annum in current-year terms.<sup>60</sup>

### 3.1.4

#### Commission's final determination

The Commission has made a final determination and more preferable final rule that retains the same scope of the GPSRR as the draft determination and rule. The Commission's reasoning in making this final determination therefore remains as presented in section 3.1.2.

In relation to the scope of the GPSRR, the Commission's expectation is that:

- the GPSRR will leverage off existing arrangements and be a high-level look at other risk arrangements, iterating over time – some risks will be looked at in depth while others will be more monitored
- AEMO and NSPs can leverage off existing work, such as the Engineering Framework, in order to prepare the GPSRR
- AEMO will conduct detailed analysis and identify options for future management only for those risks that it identifies should be prioritised in the approach paper, and
- risks that are already considered and addressed in other bodies of work will not be subject to the GPSRR to avoid unnecessary duplication.

To ensure that these positions are clearly reflected in the rule, and to address stakeholder comments, the following changes were made in the final rule:

- The Commission has decided to remove the list of specific risk areas from the rule. The risk areas in the draft rule were provided as an example of possible risks to be considered through the GPSRR process. The policy intent was not to require AEMO to review all of those risks on a yearly basis. As stakeholders considered that the list of risk areas in the rule may lead to ambiguities in the objective of the risk review, the Commission has decided to remove the list of risk areas in the final rule. This does not affect the policy intent of the review to be a holistic, overarching review of risks, but rather makes clear that the selection of these risks should be prioritised on a case by case basis and iterate over time reflecting what risks may be more material at a particular point in time.
- The Commission has decided to clarify in the final rule that AEMO must review, and identify options for current and future management of, only the prioritised set of identified risks. AEMO would not be required to assess all possible events and conditions that could lead to cascading failure, before selecting priority risks. This change is

<sup>59</sup> Stakeholder workshop summary could be found here: <https://www.aemc.gov.au/sites/default/files/2021-05/AEMC-AEMO-ENA%20workshop%20notes.pdf>.

<sup>60</sup> AEMO, Submission to the Implementing a general power system risk review draft determination, p. 1.

intended to ensure that there will be no ambiguity in the rule interpretation and that the GPSRR will be a manageable process for both AEMO and NSPs.

- The Commission's view is that the more preferable final rule provides AEMO with flexibility to assess as many prioritised risks as needed, and the expectation is that the number of these, and the level of detail presented in the final reports, will change over time. The flexibility provided in the final rule will allow AEMO to manage the costs associated with the GPSRR. The Commission acknowledges AEMO's expectation that its costs associated with undertaking the review as specified in the draft rule would increase by approximately \$1.5 million per annum.<sup>61</sup> The Commission subsequently engaged with AEMO clarifying its expectation for AEMO to review, and identify options for current and future management of, only the prioritised set of identified risks. AEMO would not be required to assess all possible events and conditions that could lead to cascading failure. Further, the final rule provides AEMO with flexibility to assess as many or as few priority risks as needed. The expectation is that the number of risks and the level of detail presented in the final reports will change over time, allowing AEMO the flexibility to manage the costs associated with the GPSRR. While currently the system faces the increased number of risks due to the energy transition, the number of new risks to be assessed is expected to decrease over time. The Commission also expects that AEMO can leverage off its existing work, such as that being undertaken through its Engineering Framework.

In relation to AEMO's suggestion to implement changes to the protected event framework, the Commission considers that changes to the protected event framework are outside of the scope for this rule change and would best be considered through a separate rule change process

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61 AEMO, submission to implementing a general power system risk review draft determination, p. 1.

## 3.2 The GPSRR process

### BOX 3: FINAL DETERMINATION ON THE PROCESS OF THE GPSRR

The Commission's final determination is for the GPSRR to be conducted annually.

In consultation with NSPs, AEMO must prepare and publish an approach paper. Among other things, the approach paper is to set out the events and conditions identified as priority risks to be assessed by AEMO in the GPSRR. For the purposes of AEMO identifying the priority risks, NSPs must on request provide to AEMO all information and assistance reasonably requested by AEMO (taking into account any analysis conducted as part of their annual planning reviews). AEMO is to publicly consult for a period of at least 20 days following publication of the GPSRR approach paper.

A single final report will be published at the conclusion of the GPSRR. The final report is to set out AEMO's findings and recommendations, including its conclusions in response to any submissions received to the approach paper. For the purposes of the final report and in relation to the priority risks, NSPs are required to provide to AEMO all information and assistance reasonably requested by AEMO including any options identified for mitigating the priority risks and any information and computer models that AEMO reasonably requires.

The Commission considers that this approach:

- balances the necessary data provisions requirements on NSPs and the resources required by NSPs to deliver those inputs;
- ensures that AEMO will receive required data inputs from NSPs to be able to assess priority risks effectively and expeditiously, and
- ensures that there is a fit for purpose consultation process in place.

### 3.2.1

#### Issue Raised

AEMO is currently required to publish the PSFRR at least every two years. The NER also specifies that a PSFRR is conducted according to a two stage draft and final report process.<sup>62</sup> Over this two stage process, AEMO must hold full consultations with TNSPs to assess system risks. Following the publication of a draft report, AEMO must invite written submissions from stakeholders on its report, only after which it can submit a request to the Reliability Panel for the declaration of a protected event. A request must include options for managing the non-credible contingency event as a protected event. This may include a new or modified Emergency Frequency Control Scheme.

In its rule change request, the COAG Energy Council noted that it considers that the existing PSFRR process occurs too infrequently and it takes too long to effectively identify emerging risks in a rapidly changing power system. Therefore, the COAG Energy Council proposed:

<sup>62</sup> Clause 5.20A.3 of the NER.

- that AEMO should conduct the GPSRR on an annual basis, and
- for the process to be streamlined via introduction of a single stage expedited process to support faster identification of risks, and development of solutions to identify those risks.

### 3.2.2

#### **Commission's draft determination**

Through the PSFRR, AEMO can recommend the declaration of a protected event, if AEMO considers it economic to operate the power system in a way that limits the consequences of certain high impact non-credible contingency events. In the draft determination, the Commission set out its view that the current process for identification, declaration and management of a protected event is transparent and systematic, but also prone to potentially unnecessary delays that may detract from AEMO's ability to respond flexibly to power system security risks in a way that may be more optimal.

The Commission has identified potentially unnecessary delays existing in the current process. In particular, the Commission considered that processes could be sped up for AEMO to undertake the PSFRR process to identify a system need.

#### **Frequency of the review**

The requirement to conduct the PSFRR at least every two years was imposed as part of the 2017 EFCS rule change and, at that time, was considered appropriate because it mirrored AEMO's practice of reviewing the existing under frequency load shedding schemes settings every two years.

Over a two-stage draft-final process, AEMO must hold full consultations with TNSPs to assess system risks and, in the event of recommending new or modifications to existing emergency frequency control schemes, full consultations with affected DNSPs also. Following the publication of a draft report, AEMO must invite written submissions from stakeholders on its report, only after which it can submit recommendations to the Reliability Panel for new or modified emergency frequency control schemes, or the declaration of a protected event.

This ex-ante process provides a transparent and systematic framework to identify anticipated power system security risks well in advance of their occurrence. However, the process also makes delivery of the solutions to address these identified risks contingent on completion of a lengthy review process. The Commission considered changes included in a GPSRR could help alleviate these concerns.

After completion of its review process, AEMO can submit a request to the Reliability Panel for an event to be declared a protected event, if it considers it economically efficient to manage one or more non-credible contingency events using existing ex-ante measures.<sup>63</sup>

Although comprehensive, stakeholders have argued that the existing process is overly lengthy. Given the pace of change in the power system, and the speed at which new risks can emerge, this may result in inefficient outcomes and create risks to the secure operation of the power system.

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<sup>63</sup> AEMC 2017, Emergency frequency control schemes, Rule Determination, 30 March 2017, p. ii.

The Commission's draft determination, therefore, was that an annual review cycle is required to identify emerging risks sufficiently quickly to allow for their effective management. While the Commission noted stakeholder concerns regarding the resource requirements involved in an annual GPSRR, the speed and scope of current, and expected, changes in the power system makes a biennial review not frequent enough. Further, as discussed above, AEMO would also have scope to prioritise and focus its resources on the consideration of those specific risks it considers material in the jurisdiction being considered.

### **Process for the review**

To address stakeholder concerns regarding resource implications, the Commission also introduced other measures in the draft rule to streamline the review process. The existing NER arrangements for the PSFRR require a two-stage process. This involves publication and consultation on a draft report prior to publication of a final report. To streamline the review, the Commission determined to remove the requirement to publish and consult on a draft report. Removing the draft report requirement should streamline and reduce the administrative complexity of the review process. The proposed streamlined review process would instead require publication of:

- an approach paper at the commencement of the review process, and
- a single final report at the review's conclusion.

The Commission expected that the approach paper would enhance transparency for all stakeholders and improve the process of interacting with TNSPs and DNSPs in conducting the review. The approach paper would assist the efficiency of the review process by promoting a common understanding of the process amongst stakeholders. The approach paper would require AEMO to set out:

- the system security risks it proposes to prioritise in each region of the NEM
- the proposed methods for assessing the prioritised risks, and
- its approach to collaborating with TNSPs and DNSPs during the review process.

Under the more preferable draft rule, stakeholders would have a minimum 10-day period to comment on AEMO's priorities and methods.

### **Differences between the proposed rule and more preferable draft rule**

The Commission was of the view that the consultation process should:

- allow stakeholders an adequate opportunity to have their views heard and considered, and
- not require market bodies or participants to waste time and resources on unnecessary or extended procedural steps.

The Commission's draft determination was therefore to make a number of changes to the proposed rule in relation to the consultation process AEMO must adhere to. The changes were to:

- require AEMO to consult with relevant NSPs in relation to a risk identified, not all NSPs – this change was made with a view to ensuring that the consultation process would not become cumbersome or unmanageable given the number of NSPs in the NEM
- remove the requirement to comment on AEMO's priorities and methods only in a written form – the Commission considered that there should be flexibility for stakeholders to share their comments with AEMO via different methods, including meetings and others.

### 3.2.3

#### Stakeholder views

In relation to the GPSRR process, stakeholders submitted the following comments in response to the draft determination and draft rule:

- The AER and PIAC supported the draft determination and, specifically, the requirement for AEMO to engage publicly with network businesses and other stakeholders in determining prioritised risks.<sup>64</sup>
- CitiPower, Powercor and United Energy considered that the GPSRR would be an opportunity to formally introduce collaboration with DNSPs to ensure a more comprehensive approach to identifying and managing emerging system security risks. However, CitiPower, Powercor and United Energy recommended a longer consultation period than 10 days following publication of the GPSRR approach paper to allow time for businesses to meaningfully engage.<sup>65</sup>
- AEMO was of the view that there was a need for clear obligations on NSPs to assist more actively and provide specific information to AEMO as part of the GPSRR process. AEMO also considered that greater cooperation between NSPs was needed to review the action and interaction of control schemes on different networks.<sup>66</sup> Specifically, AEMO proposed the following changes to the more preferable draft rule:
  - **Process requirements:** In relation to the initial assessment and prioritisation of risks within the NSPs' key areas of operation, AEMO suggested a more efficient approach would be to require TNSPs to provide a prioritised assessment to AEMO, having consulted with their respective regional DNSPs and, where relevant, other TNSPs.
  - **Data provision requirements:** AEMO considered there were some specific information requirements on NSPs that it would be helpful to itemise in the rule, to assist timeliness and NSP resourcing with regards to the effort involved.<sup>67</sup>

At the stakeholder workshop held on 27 April 2021, stakeholders made the following comments in relation to the GPSRR process:<sup>68</sup>

<sup>64</sup> AER, Submission to the Implementing a general power system risk review draft determination, p. 1; PIAC, Submission to the Implementing a general power system risk review draft determination, p. 1.

<sup>65</sup> CitiPower, Powercor and United Energy, Submission to the Implementing a general power system risk review draft determination, p. 1.

<sup>66</sup> AEMO, Submission to the Implementing a general power system risk review draft determination, p. 5.

<sup>67</sup> The full list of proposed information requirements could be found in AEMO's submission.

<sup>68</sup> Summary of stakeholder views can be found in Chapter 3. Summary of stakeholder workshop for implementing a general power system risk review can be found here: <https://www.aemc.gov.au/news-centre/media-releases/summary-stakeholder-workshop-implementing-general-power-system-risk-review>.

- Stakeholders agreed that the GPSRR should leverage off existing processes avoiding duplication.
- Coordination and collaboration between AEMO and NSPs has generally worked well to date in relation to the PSFRR.
- A proposal was made that AEMO be required to develop a GPSRR guideline in consultation with NSPs on the expectations and scope of the information to be provided for the purposes of the review. Some stakeholders expected that this could be a more flexible approach than setting out the details directly in the Rules.
- Other stakeholders considered that a guideline or procedure-type document would not be suitable. They considered that there was the need for flexibility in the process for the ongoing engagement between AEMO and NSPs, and that this will shift and progress every year. It was noted that the existing processes such as ones applied for the PSFRR purposes could be leveraged for the GPSRR.

### 3.2.4

#### Commission's final determination

The Commission has made a final determination and rule that retains the same frequency and stages for the GPSRR process. However, changes were made to the more preferable draft rule to ensure that:

- AEMO receives required data inputs from NSPs to be able to assess priority risks effectively and expeditiously
- there is a fit for purpose consultation process in place
- there is an appropriate lead time to deliver the first GPSRR.

#### Data provision requirements

The information inputs from NSPs will be critical to enable AEMO to undertake the review expeditiously. However, the Commission has determined not to itemise data provision requirements for NSPs in the Rules. This is because:

- There are other mechanisms under the Rules and Law, such as information gathering powers, that allow AEMO to request the needed data from NSPs.<sup>69</sup>
- Data provision requirements are likely to vary over time depending on the priority risks for the review. Hence, to include a full list of potential data provision requirements is likely to be disproportionate and potentially may lead to duplicative data gathering processes.
- A comprehensive list of potential data provision requirements such as that suggested in its submission by AEMO would represent a material step change in required resources for NSPs. A flexible approach to data provision requirements may provide for more efficient resources management.

The Commission has considered the introduction of a GPSRR guideline developed by AEMO in consultation with NSPs. However, it is expected that the data requirements for the GPSRR will change over time, meaning that the guideline may not be effective if not regularly revised. In

<sup>69</sup> Information gathering powers under the NEL Section 53.

addition, the development and review of such guideline would require additional resources and is likely to increase the total GPSRR costs.

To balance the necessary data provision requirements on NSPs and the resources required by NSPs to deliver those inputs, the Commission has decided to adopt the following approach:

- For the purposes of AEMO identifying the priority risks in the approach paper, NSPs are required to cooperate with AEMO and, taking into account any analysis conducted as part of their annual planning reviews, provide to AEMO all information and assistance reasonably requested by AEMO. The Commission's intention is that, as part of the initial consultation and for the purposes of the approach paper, NSPs would provide to AEMO their views and findings in relation to the potential risks that may lead to cascading outages, or major supply disruptions. NSPs are not expected to perform major system modelling exercise or provide computer models to AEMO at this initial consultation stage.
- For the purposes of the assessment of risks prioritised for the review and in preparation of the final report, NSPs are to provide to AEMO all information and assistance reasonably requested by AEMO. This includes providing AEMO with details of any options the Network Service Provider has identified for mitigating the priority risks, and providing any information and computer models that AEMO reasonably requires. The Commission expects that NSPs will closely collaborate with AEMO in relation to the assessment of priority risks and will provide all required data inputs, including computer models, that AEMO reasonably requires in order to enable AEMO to undertake the review expeditiously. The Commission considers that this approach comprised of an initial, broader high-level risks scan and then a more detailed investigation of the prioritised risks is proportionate and will promote efficient use of resources.

### **Consultation process**

Given stakeholder views, and to enhance the consultation process, the Commission has determined to make the following changes in the more preferable final rule in relation to the GPSRR consultation process:

- The Commission agrees with CitiPower, Powercor and United Energy that 10 business days may not be a sufficient period to engage with AEMO on the approach paper as it is likely to include complex technical issues. Therefore, the Commission has determined to extend the consultation period to 20 business days.
- To further enhance the consultation process and promote transparency, the Commission has also determined to require AEMO, in the GPSRR final report, to include its conclusions in response to any submissions received to the approach paper.

The Commission acknowledges that AEMO suggested a process under which DNSPs would provide their information inputs to TNSPs, and TNSPs would consolidate the inputs received and provide them to AEMO.<sup>70</sup> The Commission's view is that the more preferable final rule provides AEMO with flexibility to put in place arrangements it considers appropriate to consult with NSPs. Given this flexibility in the final rule, the Commission has determined not to make this change.

<sup>70</sup> AEMO, Submission to the Implementing a general power system risk review draft determination, p. 15.

### 3.3 Links to the existing planning processes

#### **BOX 4: FINAL DETERMINATION ON THE LINKS TO THE EXISTING PLANNING PROCESSES**

The Commission final determination is for the final rule to require:

- NSPs to take into account the outcomes from the recent GPSRR in their Annual Planning Reviews.
- NSPs to consider, in their annual planning reviews, the operation of, and any known or potential interactions between, any emergency frequency control schemes or emergency controls; and protection systems or control systems of plant connected to its network (including consideration of whether the settings of those systems are fit for purpose for the future operation of their network), where the NSP expects that such operation or interactions would be likely to lead to cascading outages or major supply disruptions.
- AEMO to consider and have regard to the outcomes of the GPSRR in conducting the ISP.

This approach will support the integration of system security risks into planning more generally. It will also promote the efficient use of resources as schemes and controls will be reviewed as needed and on a prioritised basis.

#### **3.3.1 Issue raised**

In its rule change request, the COAG Energy Council noted that it considers that the existing PSFRR is not sufficiently integrated into the broader planning arrangements undertaken by AEMO and NSPs.<sup>71</sup> Therefore, the Council proposed to:<sup>72</sup>

- require NSPs to take into account the outcomes from the recent GPSRR in their annual planning reviews
- require AEMO to consider and have regard to the outcomes of the GPSRR in conducting the ISP
- require NSPs to consider, in their annual planning reviews, whether any special protection schemes and settings of protection systems or control systems of plant connected to its network are fit for purpose for the future operation of its network; and whether there is a risk of any adverse interactions of those settings.

The COAG Energy Council was of the view that these requirements would assist the co-ordination of all parties responsible for managing the changing power system risk and resilience profile through its inclusion of AEMO, TNSPs, and DNSPs.<sup>73</sup>

<sup>71</sup> COAG Energy Council, rule change request, p. 4.

<sup>72</sup> *ibid*, 2.

<sup>73</sup> *ibid*, p. 4.

### 3.3.2

#### Commission's analysis and draft determination

##### Links to other planning processes

In the draft determination, the Commission noted that it agreed with the COAG Energy Council and stakeholders that explicit links between NSP annual planning reviews, the ISP and GPSRR, would support the integration of system security risks into planning more generally. Therefore, the Commission determined to require:

- NSPs, in their annual planning reviews, to consider findings from the most recent GPSRR
- AEMO to consider findings from the most recent GPSRR in its ISP.

##### Including risks from protection scheme interactions

The Commission agreed with the COAG Energy Council and AER that unexpected outcomes from, and adverse interactions between, emergency frequency control schemes and emergency controls, plant control and protection settings represent a material risk that should be systematically assessed as part of a GPSRR. The events of 25 August 2018 are an example of the risks inherent in the use of special protection schemes.<sup>74</sup>

The Commission therefore determined to impose a requirement on:

- AEMO to holistically consider the risks associated with adverse operation or interaction of emergency frequency control schemes and emergency controls, including as identified by NSPs in their APRs
- both TNSPs<sup>75</sup> and DNSPs<sup>76</sup> to conduct a review of, and interactions between: emergency frequency control schemes and emergency controls on their network; and the settings of protection systems or control systems of plant connected to their network (including consideration of whether such settings are fit for purpose for the future operation of their network), and
- both TNSPs and DNSPs<sup>77</sup> to conduct joint planning in assessing the interactions between emergency frequency control schemes or emergency controls, and the settings of protection systems or control systems of plant connected to their respective networks.

##### Differences between the proposed rule and more preferable draft rule

The Commission determined to clarify the wording in the proposed rule by substituting "special protection schemes" in the proposed rule drafting by "emergency frequency control schemes" and "emergency controls" in the more preferable draft rule. The Commission made this change with a view to maintain the consistency and clarity of the NER as "emergency frequency control schemes" is a defined term in the NER and "emergency controls" is a commonly understood term used elsewhere in the NER.

<sup>74</sup> On Saturday 25 August 2018, a single lightning strike caused the simultaneous "double back" flashover across two insulators of the QLD – NSW interconnector (QNI). After two seconds QNI tripped, separating the Queensland region from the rest of the NEM. This led to the loss of the interconnector between South Australia and Victoria (Heywood) and the separation of the South Australia region from the rest of the NEM. This in turn resulted in under-frequency load shedding in the New South Wales, Victoria, and Tasmania regions. The event demonstrated the present challenges of controlling frequency in the NEM and keeping the power system in a secure state, particularly following non-credible contingency events.

<sup>75</sup> As part of their transmission annual planning review obligations under clause 5.12.1 of the NER.

<sup>76</sup> As part of their distribution annual planning review obligations under clause 5.13.1 of the NER.

<sup>77</sup> As part of their joint planning obligations under clause 5.14.1(d).

### 3.3.3

#### Stakeholder views

The AER, PIAC and CitiPower, Powercor and United Energy did not comment on the links between GPSRR and the existing planning processes.

In its submission, AEMO set out its views that:

- There would be benefit in routinely reviewing the performance of all EFCS and control schemes, and all such critical schemes should be assessed in detail; however, the requirement for NSPs to review or assess the settings of protection system or control systems of plant during every annual planning review process may be particularly time consuming.
- There is need for greater cooperation between NSPs (including TNSPs across all interconnected regions) to review the action and interaction of control schemes on different networks. In particular, AEMO suggested it would be efficient to extend TNSP joint planning obligations under clause 5.14.3, to incorporate cooperation in reviewing EFCS and emergency control interactions between regional networks.

### 3.3.4

#### Commission's final determination

In response to AEMO's submission and to ensure that the GPSRR is a manageable and effective exercise, the Commission has determined to make some changes to the obligation on NSPs to review EFCS, emergency controls and protection and control systems of plants in their annual planning reviews to clarify the Commission's intent.

Specifically, the requirement to review the settings of, and interactions between, the EFCS and emergency control schemes, and the protection or control systems of plant connected to their networks has been substituted in the final rule with the requirement to consider the operation of, and any known or potential interactions between, these schemes and controls or systems where the NSP expects that such operation or interactions would be likely to lead to major supply disruptions. This change was made because:

- The Commission does not expect NSPs to review all schemes and controls on a yearly basis as this is likely to be disproportionate. The intent is for the schemes and controls to be reviewed as needed and on a prioritised basis. The use of "consider" is intended to indicate that a proportionate approach should be taken.
- The Commission understands that settings of the schemes and controls may not necessarily take into account the topology and design of the schemes. Therefore, the Commission has determined to substitute "settings" in the final rule with "operation" to ensure that schemes and controls are reviewed in their totality where this is warranted.
- The Commission has also decided to clarify in the final rule that NSPs are expected to consider not only known adverse interactions between and schemes and controls but also potential ones where NSP expects that such operation or interactions would be likely to lead to major supply disruptions. This change was made with a view to encouraging consideration of schemes whose interactions may not be known, but where the consequences of interaction or incorrect/out of date settings may present a significant risk for the uninterrupted electricity supply. A likely scenario is where NSPs will be aware that changes on the network since the schemes or controls were installed or last

reviewed have been significant and would not have been accounted for in the current settings.

The Commission notes that the more preferable draft rule included a joint planning obligation for TNSPs and DNSPs to assess the interactions between the schemes and controls, and their settings, as identified through the annual planning review process. The Commission agrees with AEMO that it would be efficient and consistent with the joint planning obligation for TNSPs and DNSPs to extend TNSPs' joint planning obligations to incorporate cooperation in reviewing EFCS and emergency control interactions between regional networks. Therefore, the Commission has decided to amend the more preferable draft rule and to include the joint planning obligation for TNSPs to collaboratively assess the interactions between the schemes and controls, and their settings, as identified through the annual planning review process.

## ABBREVIATIONS

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
Commission	See AEMC
EFCS	Emergency Frequency Control Schemes
GPSRR	General Power System Risk Review
MCE	Ministerial Council on Energy
NEL	National Electricity Law
NEO	National electricity objective
NERL	National Energy Retail Law
NERO	National energy retail objective
NGL	National Gas Law
NGO	National gas objective
PSFRR	Power System Frequency Risk Review

## A EXISTING ARRANGEMENTS FOR REVIEWING AND MANAGING FREQUENCY RISKS ARISING FROM NON-CREDIBLE CONTINGENCY EVENTS

The PSFRR is an integrated, transparent framework for the consideration and management of frequency risks that AEMO expects would be likely to involve uncontrolled increases or decreases in frequency leading to cascading outages or major supply disruptions associated with non-credible contingencies. The purpose of the existing PSFRR is to determine whether:

- in order to limit the consequences of some non-credible contingency events, there is a need to introduce, modify or adapt automatic schemes to shed load or generation, or
- it would be economic for AEMO to operate the power system in a way that limits the consequences of certain high consequence non-credible contingency events, should they occur. This process can lead to the declaration of a protected event by the Reliability Panel.<sup>78</sup>

The PSFRR outlines a different process for AEMO to follow for each of the purposes mentioned above. For the former, once a need to introduce, modify or adapt such an Emergency Frequency Control Scheme is identified:

- the assessment, design, implementation and monitoring of the scheme will largely proceed through the existing framework for NSP planning and investment decision-making in the NER, and
- the Regulatory Investment Test for Transmission (RIT-T) or Distribution (RIT-D) will be used to assess the economic case for the change.

For the latter purpose, if AEMO identifies through the PSFRR one or more non-credible contingency events which it considers it may be economically efficient to manage:

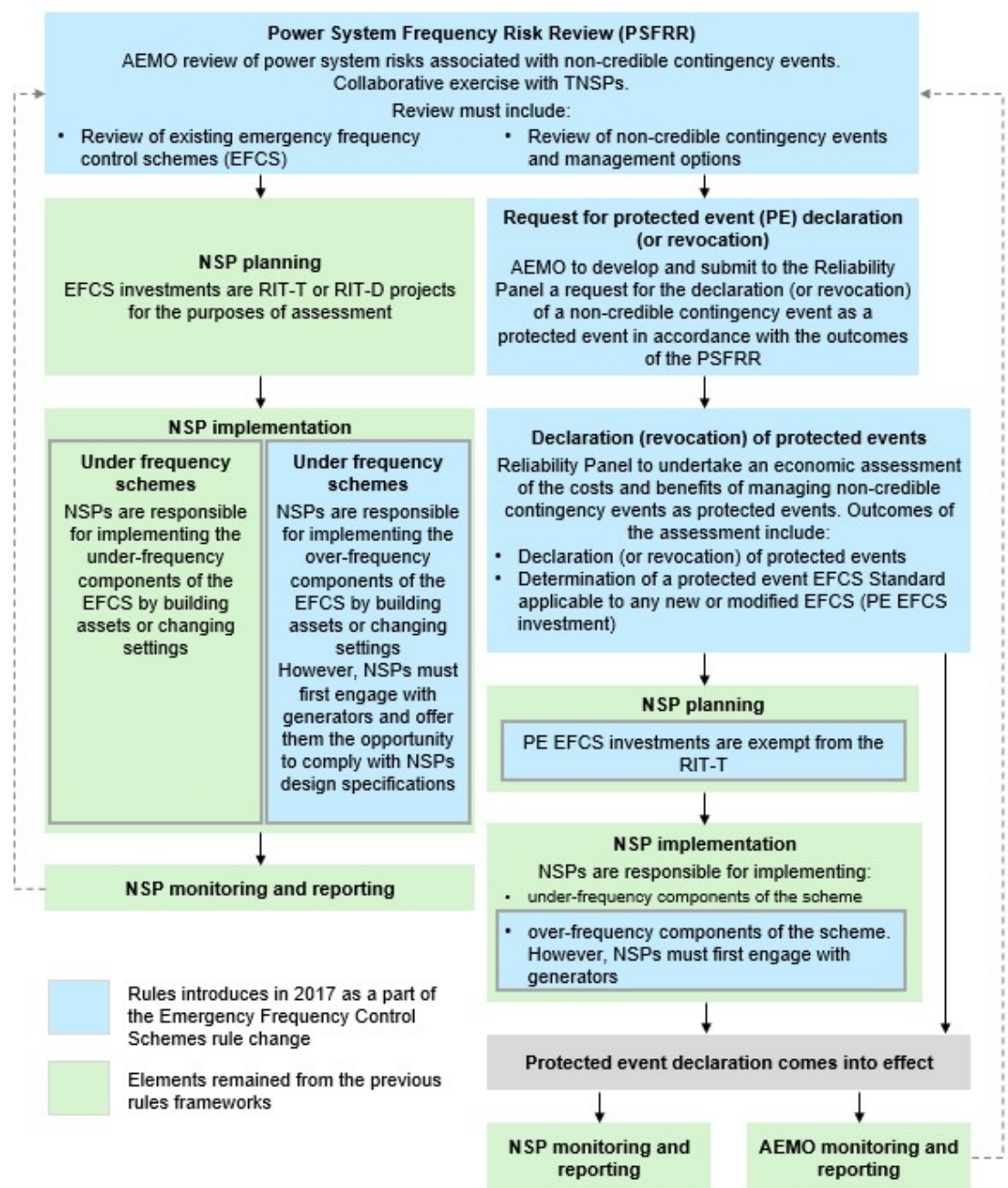
- AEMO can submit a request to the Reliability Panel to have the event declared to be a protected event
- ex-ante measures may be used to manage an event either alone or in combination with a new or modified Emergency Frequency Control Scheme
- the Reliability Panel undertakes an economic assessment of the request by weighing the costs of the options for managing the event against the benefits of avoiding the consequences of the non-credible contingency event should it occur. Where the benefits of managing the event outweigh the costs of doing so, the Reliability Panel would declare the event a protected event, and
- where the efficient management option includes a new or modified Emergency Frequency Control Scheme, the Reliability Panel would set a "protected event Emergency Frequency Control Scheme standard", which is a set of target capabilities for the scheme.

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<sup>78</sup> AEMC, Emergency frequency control schemes, rule determination, 30 March 2017 p. ii. For the definition of a protected event, see box 1.

Importantly, NSPs would be exempt from having to undertake a RIT-T or RIT-D for investments made as a part of a declared protected event. This is because the Reliability Panel would have already undertaken a cost benefit analysis of the operation recommended by AEMO in the PSFRR. This process is detailed graphically in Figure A.1.

**Figure A.1: Process flow of the PSFRR**



Source: AEMC

## B RELATED COMMISSION WORK

This rule change is part of a wider Commission work program on system security, which includes those rule changes seeking to action the recommendations made by the Commission in its BSE review report. Three rule change requests were submitted by the COAG Energy Council<sup>79</sup>:

- Implementing a general power system risk review rule change request (subject of this draft determination)
- Enhancing operational resilience in relation to indistinct events
- Prioritising arrangements for system security during market suspension.

The latter two are discussed below.

### B.1 Enhancing operational resilience in relation to indistinct events

On 26 May 2020, the AEMC received a rule change request from the COAG Energy Council to amend the NER to introduce a framework to manage indistinct events.<sup>80</sup>

Indistinct events are events that can impact multiple generators or transmission lines in an unpredictable and uncertain manner. Indistinct events may include major storms, widespread fires and cyber attacks, which may trigger unpredictable responses in an increasingly complex power system.

In the BSE review report, the AEMC found that the existing system security framework may be ill-suited to managing indistinct events and recommended introducing a framework for protected operation, as a new operational tool for AEMO to enhance the resilience of the power system to indistinct events.<sup>81</sup>

The proposed rule would:

- introduce the new definition of an 'indistinct event'
- clarify that standing risks from indistinct events can be managed as a type of protected event
- enhance the protected event approval process to manage standing indistinct events
- implement a new operational tool, protected operation, allowing AEMO to more effectively manage condition-dependent indistinct events
- set out two types of protected operation:
  - pre-defined protected operation, and
  - ad-hoc protected operation

<sup>79</sup> On 29 May 2020, it was announced that the Council of Australian Government (COAG) will cease and a new National Federation Reform Council (NFRC) will be formed, with National Cabinet at the centre of the NFRC.

<sup>80</sup> For more information, see the project page: <https://www.aemc.gov.au/rule-changes/enhancing-operational-resilience-relation-indistinct-events#:~:text=Rule%20Change%3A%20Open&text=Indistinct%20events%20are%20events%20that,an%20increasin gly%20complex%20power%20system.>

<sup>81</sup> Mechanisms to Enhance Resilience in the Power System – Review of the South Australian Black System Event, final report, December 2019, p. i.

- specify governance arrangements for protected operation.

On 17 December 2020, the Commission published a consultation paper for this rule change request, with the submissions due on 11 February 2021.

On 22 April 2022, the Commission extended the time for making a draft rule. The extra time is to allow the Commission to deal with complex issues raised in the rule change request and feedback received from stakeholders in submissions to the consultation paper. The Commission will now publish the draft rule and draft determination by 28 October 2021.

## B.2 Prioritising arrangements for system security during market suspension

On the 26 May 2020, the AEMC received a rule change request from COAG Energy Council that seeks to clarify the applicability of the NER during periods of market suspension.<sup>82</sup>

Existing arrangements provide for AEMO to suspend the operation of the spot market in a region. However, the rules do not explicitly set out the applicability of other provisions of the NER during a period of market suspension, and the extent to which AEMO must comply with these elements.

Additionally, current rule arrangements do not explicitly provide AEMO with flexibility to prioritise core system security requirements during a period of market suspension. This rule change request seeks to provide AEMO with such flexibility.

This rule change request proposes to amend the NER by:<sup>83</sup>

- clarifying the applicability of market rules during a period of market suspension thereby reducing uncertainty for AEMO and market participants
- providing AEMO with flexibility to prioritise system security obligations if compliance with a rule provision (particularly an obligation of a more administrative nature) would place a material risk on their ability to maintain power system security during a period of spot market suspension, and
- specifying transparency arrangements applying to any prioritisation of system security over other NER obligations by AEMO during a period of market suspension.

On 1 April 2021, the AEMC made a draft determination regarding the proposed rule, with submissions due on 13 May 2021. The Commission's draft determination was not to make the proposed rule change given that the Rules currently set out clearly what arrangements apply during a period of market suspension, and that attempting to further clarify this may create uncertainty or confusion in relation to the interpretation of the Rules.

It is expected that the final determination will be published by 24 June 2021.

<sup>82</sup> For more information, see the project page: <https://www.aemc.gov.au/rule-changes/prioritising-arrangements-system-security-during-market-suspension>.

<sup>83</sup> COAG Energy Council, Rule Change Request – Market Suspension, May 2020.

## C LEGAL REQUIREMENTS UNDER THE NEL

This appendix sets out the relevant legal requirements under the NEL for the AEMC to make this final rule determination and final rule.

### C.1 Final rule determination

In accordance with s. 102 and 103 of the NEL the Commission has made this final rule determination in relation to the rule proposed by the COAG Energy Council.

The Commission's reasons for making this final rule determination are set out in section 2.4 and Chapters 3 of this final determination.

A copy of the more preferable final rule is published with this final rule determination. A summary of its key features is set out in section 2.1 of this final determination.

### C.2 Power to make the rule

The Commission is satisfied that the more preferable final rule falls within the subject matter about which the Commission may make rules. The more preferable final rule falls within s. 34 of the NEL as it relates to the operation of the national electricity market, the operation of the national electricity system for the purposes of safety, security and reliability of that system, the activities of persons participating in the national electricity market or involved in the operation of the national electricity system.<sup>84</sup>

### C.3 Commission's considerations

In assessing the rule change request the Commission considered:

- it's powers under the NEL to make the rule
- the rule change request
- submissions received in response to the August 2019 discussion paper for the Mechanisms to enhance resilience in the power system – review of South Australia black system event<sup>85</sup>
- submissions received to the draft determination
- informal feedback received at the working group on 27 April 2021, and`
- 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.<sup>86</sup>

<sup>84</sup> Section 34(1)(a)(i) NEL.

<sup>85</sup> For more information, see: <https://www.aemc.gov.au/markets-reviews-advice/review-of-the-system-black-event-in-south-australi>.

<sup>86</sup> Under s. 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.

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 performance of Australian Energy Market Operator (AEMO)'s declared network functions.<sup>87</sup> The more preferable final rule is compatible with AEMO's declared network functions because it does not amend or affect those functions.

## C.4 Civil penalties

The Commission cannot create new civil penalty provisions. However, it may recommend to the National Federation Reform Council that new or existing provisions of the NEL be classified as civil penalty provisions.

The more preferable final rule does not amend any clauses that are currently classified as civil penalty provisions under the NEL or National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the National Federation Reform Council that any of the proposed amendments made by the final rule be classified as civil penalty provisions.

## C.5 Conduct provisions

The Commission cannot create new conduct provisions. However, it may recommend to the National Federation Reform Council that new or existing provisions of the NEL be classified as conduct provisions.

The more preferable final rule does not amend any rules that are currently classified as conduct provisions under the NEL or National Electricity (South Australia) Regulations. The Commission does not propose to recommend to the National Federation Reform Council that any of the proposed amendments made by the final rule be classified as conduct provisions.

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<sup>87</sup> Section 91(8) of the NEL.