

# The Black System Event Compliance Report: Recommendations Outcomes

Update on implementation of recommendations arising from the AER investigation into the pre-event, system restoration, and market suspension aspects surrounding the 28 September 2016 event

## Report overview

On the afternoon of 28 September 2016, South Australia experienced a state-wide blackout. In December 2018, the AER published *The Black System Event Compliance Report*, which reviewed compliance by various National Electricity Market (NEM) participants against the National Electricity Rules (the Rules). The AER's review of the events immediately preceding the state-wide blackout was subject to a separate investigation and some related issues are now before the Court.

In the report, the AER found that the Australian Energy Market Operator (AEMO) did not breach any of its core obligations around operating the market or managing power system security. However, we did find AEMO non-compliance with five clauses of the Rules concerning actions during the pre-event and market suspension periods and made recommendations on each of these. These predominantly related to AEMO obligations around communication and transparency. We also identified areas where changes would improve the overall effectiveness of the regulatory framework. More information about our findings can be found on the [AER's website](#).

## Implementation status

The AER identified 13 recommendations and remedial actions to improve processes and the overall Rules framework in key areas. Actions proposed by the AER included:

- implementing more rigorous weather monitoring processes
- standardising notifications for market participants during abnormal weather conditions
- more broadly reviewing the criteria under which weather events are classified
- improving AEMO operator training, and
- clarifying roles and responsibilities of the market operator and network service providers regarding system restoration.

All but one of the recommendations and remedial actions proposed by the AER have now been implemented. While one recommendation has not yet been implemented by AEMO, it will further consider this recommendation as part of actions arising from the AEMC's black system event review report. Each of the recommendations/remedial actions and their status are set out in detail in Table 1 below.

**Table 1: Implementation status of AER recommendations and remedial actions**

Reference	Recommendation/remedial action	Implementation status
<b>Pre-event period (AEMO and ElectraNet management of power system)</b>		
2.1	<p>To keep itself promptly informed of abnormal conditions, AEMO to put in place more rigorous processes to monitor weather warnings and forecasts at all times, not just at times of extreme weather.</p>	<p>Completed as part of AEMO's own power system operating incident report recommendations.</p> <p>AEMO implemented a series of measures to enhance weather information and related processes. These included:</p> <ul style="list-style-type: none"> <li>• enhancement of weather services provided by the Bureau of Meteorology and other third party providers, including an embedded meteorologist from the Bureau of Meteorology onsite to provide extreme weather briefing and insights,</li> <li>• restructure of AEMO operations to increase resources for operational forecasting and its support of real time operations,</li> <li>• provision of tailored Bureau of Meteorology training for AEMO operational forecasting staff, and</li> <li>• development and implementation of the forecasting uncertainty measure in reserves assessment.</li> </ul>
2.2	<p>AEMO to review its processes for issuing notifications to Market Participants during abnormal conditions. AEMO's processes should be standardised and clearly communicated to Market Participants, such that if AEMO is of the view that:</p> <ul style="list-style-type: none"> <li>• a non-credible contingency event is more likely to occur due to abnormal conditions, it must issue a notification to Market Participants in accordance with clause 4.2.3A(c)</li> <li>• material new information has arisen relevant to its consideration of whether the event is reasonably possible, it must update the notification in accordance with clause 4.2.3A(d), or</li> <li>• abnormal conditions are no longer materially affecting the likelihood of a non-credible contingency event, it must issue a notification to Market Participants to this effect.</li> </ul>	<p>Completed.</p> <p>In March 2019, AEMO updated its Market Notice templates to include a notice of increased likelihood of a non-credible contingency event arising from abnormal conditions, where no reclassification has taken place.</p> <p>AEMO has commenced issuing such notices when:</p> <ul style="list-style-type: none"> <li>• it becomes aware of abnormal conditions and has completed an initial evaluation of its potential impact on power system assets, and</li> <li>• reclassification criteria are not met but the potential for the abnormal conditions to impact the power system warrants ongoing monitoring.</li> </ul> <p>Updates to these notices are provided if the threat increases to a level that requires reclassification or if AEMO determines the abnormal conditions have abated and the likelihood of occurrence is no longer elevated.</p>

Reference	Recommendation/remedial action	Implementation status
2.3	<p>AEMO to holistically review the criteria at least once every two years and in that process consult with Market Participants, Transmission Network Service Providers (TNSPs), Jurisdictional System Security Coordinators, relevant emergency services agencies and other relevant stakeholders such as the Bureau of Meteorology. In conducting this review, AEMO should not only assess whether existing criteria are adequate, but also whether there are any gaps in the criteria. This also includes assessing any non-credible contingency events that have happened and considering whether the criteria need to be adjusted, developed, expanded or explained in more detail, in light of that experience.</p>	<p>Completed.</p> <p>AEMO engaged an external consultant to review, amongst other things, the adequacy of reclassification criteria in AEMO's Power System Security Guidelines (SO_OP_3715) and identify any gaps. This involved a review of historic non-credible contingency events and the criteria in light of these experiences. Part of this remit was to consult with transmission businesses via the Power System Security Working Group (PSSWG). The PSSWG reports to the NEM Operations Committee, which includes representatives from emergency services and other stakeholders.</p> <p>The Power System Security Guidelines were updated in September 2019 to include revisions to:</p> <ul style="list-style-type: none"> <li>• the bushfire risk assessment, including how transmission businesses contribute to this assessment</li> <li>• the criteria for transmission lines to be declared vulnerable to lightning, and</li> <li>• the reclassification framework for severe weather events.</li> </ul>
2.4	<p>AEMO to ensure that the criteria include a requirement to have regard to the particulars of any risk(s) associated with any abnormal conditions that AEMO and relevant stakeholders identify through the consultation process.</p>	<p>Completed.</p> <p>See recommendation 2.3.</p>

Reference	Recommendation/remedial action	Implementation status
2.5	AEMO to introduce a framework and criteria regarding its approach to the reclassification of non-credible contingencies due to abnormal conditions that are not explicitly identified in the Power System Security Guidelines, including a risk assessment framework.	<p>Not implemented.</p> <p>AEMO's external consultant (see recommendation 2.3) was also engaged to consider a possible framework and criteria for an approach to the reclassification of non-credible contingencies due to abnormal conditions that are not explicitly identified in the Power System Security Guidelines, including a risk assessment framework.</p> <p>AEMO subsequently advised that it has not identified a meaningful general risk assessment framework that could be applied on a common basis within the existing reclassification framework for as yet unidentified "non-credible contingency events" as currently defined in the Rules.</p> <p>AEMO advised that it will await the outcomes of the AEMC's <a href="#">Mechanisms to enhance resilience in the power system—review of the South Australian black system event</a> report, including any subsequent rule changes.</p> <p>The AER will continue to monitor the outcome of this recommendation.</p>
3.1	AER to conduct an industry-wide compliance review of clauses 4.3.3(e), 4.3.4(a) and 4.8.1 to verify that there is alignment between Registered Participants' and AEMO's expectations in relation to the extent and type of information to be communicated by Registered Participants to AEMO.	<p>Completed.</p> <p>The AER conducted its compliance review in 2019, with key learnings included in its <a href="#">Summer Readiness Compliance Bulletin</a> published in December 2019.</p>
<b>System restoration</b>		
4.1	AER to propose a rule change to clarify the TNSP's involvement in the System Restart Ancillary Services (SRAS) process beyond procurement. This involvement to extend to include facilitating ongoing testing of SRAS to ensure that SRAS continues to be capable of being delivered and the actual deployment of SRAS during system restoration. This includes complying with applicable requirements in the SRAS Guideline.	<p>Completed.</p> <p>The AER submitted its <a href="#">rule change to the AEMC</a> in September 2019.</p>
4.2	AER to propose a rule change to amend clause 3.11.7(d) of the Rules to specify that the SRAS Guideline set out that the testing of SRAS is to include a comparison with the arrangements planned to be utilised during a major supply disruption.	<p>Completed.</p> <p>The AER submitted its rule change to the AEMC in September 2019.</p>

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4.3	<p>AEMO, during its next review of the Guidelines for Preparing Local Black System Procedures (LBSP Guidelines), consult with Generators and Network Service Providers (NSPs) on providing more detailed content in the LBSPs and on the level of guidance provided in the LBSP Guidelines. This will assist and guide the growing number of new, smaller participants who will be required to develop LBSPs.</p>	<p>Completed.</p> <p>AEMO has conducted a review of the LBSP Guidelines in consultation with Generators and NSPs. The revised Guidelines and accompanying templates were published in December 2019.</p> <p>The purpose of the amendments was to improve the quality and usefulness of the LBSPs in current and future power system conditions, and enable AEMO to better reflect the capabilities of newer generation technologies in system restart procedures.</p> <p>AEMO will run training on the new LBSP templates depending on participant demand.</p>
4.4	<p>AER to propose a rule change to require AEMO and NSPs for each region to jointly prepare written communication protocols which set out the timing of and manner in which information will be exchanged and between which parties, both in preparation for and during a major supply disruption specifically, and the nature of that information including:</p> <ul style="list-style-type: none"> <li>• AEMO to liaise directly with all TNSPs and generators, including through the dissemination of LBSPs to other parties where appropriate and the System Restart Working Group</li> <li>• TNSPs to liaise directly with: <ul style="list-style-type: none"> <li>• Distribution Network Service Providers (DNSPs) and customers connected to their transmission network regarding the nature of connection point and load characteristics</li> <li>• Generators regarding connection point characteristics and the nature of switching that may need to be conducted during the process of system restoration</li> </ul> </li> <li>• DNSPs to liaise directly with parties (including embedded generators) connected to their distribution network regarding the nature of connection point and load characteristics.</li> </ul>	<p>Completed.</p> <p>The AER submitted its rule change to the AEMC in September 2019.</p>

Reference	Recommendation/remedial action	Implementation status
<b>Market suspension (dispatch of generation and power system security)</b>		
5.1	Improved training for AEMO operators regarding the specific language used to ensure operators clearly state whether they are making a request, issuing instructions, or otherwise issuing clause 4.8.9 directions.	Completed.  AEMO updated its training program to include regular practice for control room operators in issuing market notices.  Scripts for issuing directions were improved, and AEMO conducts biannual market intervention scenario based training, which includes practicing scripts.
5.2	AEMO ensures that it publishes market notices, without delay, after it becomes aware of any foreseeable circumstances that may require AEMO to implement an intervention event and that it updates its procedures and guidelines accordingly.	Completed.  AEMO updated its internal control room guidance to reflect this requirement.
5.3	AEMO ensures that its procedures more closely align with what is prescribed in the Rules particularly regarding directions (clause 4.8.9) and market notices (clause 4.8.5A).	Completed.  AEMO conducted public consultation on its Procedures for Issue of Directions and Clause 4.8.9 Instructions (SO_OP_3707), with revised procedures published September 2019. Amongst other things, the procedures were rewritten to provide a more comprehensive description of the AEMO processes before and after issuing a direction or clause 4.8.9 instruction.

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