

Review of the system restart standard 2025

The Reliability Panel is commencing a review of the system restart standard

The Reliability Panel (Panel) has published terms of reference and an issues paper to commence its periodic review of the System Restart Standard (the Standard). Stakeholder submissions to the issues paper are due by 30 January 2025.

System restart ancillary services are resources that are procured to restart the power system following a major disruption to supply

In the event of a major supply disruption, System Restart Ancillary Services (SRAS or restart services) may be used to supply sufficient energy to restart power stations in order to begin the process of restoring the power system. Such an event, also known as a black system event, typically involves a substantial loss of generation and supply to customer load.

The System restart standard (the Standard) sets out several key parameters for system restoration, including the speed of restoration, how much supply is to be restored and the level of reliability of SRAS and guides the Australian Energy Market Operator (AEMO)'s procurement of SRAS.

The Standard is set by the Reliability Panel and is part of the system restart regulatory framework that relates to the requirements and responsibilities for the restoration of the power system following a major supply disruption that leads to the unplanned de-energisation of part of the transmission system.

The transition introduces challenges in ensuring system restart capability

AEMO has identified several challenges for the provision of SRAS and system restart planning due to ongoing changes in the power system as it transitions, including:

- there is a reducing availability and participation of existing restart units which is impacting the ability to meet the Standard
- high concentrations of distributed photovoltaic (PV) generation at consumer locations can impact the ability to stabilise restart islands
- resiliency and flexibility is required in restart pathways as the power grid becomes inherently more complex.

The Panel will focus its review on the system restart frameworks before shifting focus to the Standard

The Australian Energy Market Commission (AEMC) has provided the Panel with terms of reference requesting a review of the Standard. The AEMC considers that it is timely for the Panel to consider the Standard and associated frameworks and as such, has requested that the Panel perform a two stage review that:

- **Stage one:** makes recommendations on the appropriateness of the system restart regulatory framework in the context of the future power system envisaged in the AEMO integrated system plan.
- **Stage two:** sets the Standard to reflect an up-to-date understanding of the power system, that is informed by stage one and includes consideration of the risks of a major supply disruption and the costs and availability of SRAS.

The Panel developed a broad framework to systematically consider issues within the issues paper

The Panel has divided related issues in the system restart regulatory framework into three key categories: restart preparedness and governance, SRAS sufficiency, and transparency and reporting.

Restart preparedness refers to the readiness of the power system to effectively restore the power system following a major supply disruption. This includes the capabilities and constraints related to the physical network infrastructure and the planning and processes undertaken by the system operator and NSPs. Restart preparedness also includes restart governance which covers the NER frameworks that establish the processes, roles and responsibilities for system restart. The Panel is interested in stakeholder views related to restart preparedness on:

- the appropriateness of the current roles and responsibilities for system restart, including the contributions that could be made by inverter connected plant
- opportunities for the design and development of REZs to support future restart preparedness
- transmission network changes that may be required to support system restart through the transition
- managing risks to system restart from changes occurring at the distribution level of the power system
- identifying opportunities for improved restart preparedness from changes at the distribution level of the power system.

Restart sufficiency refers to the availability of black start capability required to restart the power system following black system events. The Standard defines the operational planning objective for system restart and guides AEMO's procurement of SRAS to deliver restart. The Panel is interested in stakeholder views to inform:

- an understanding of the technical challenges related to the provision of SRAS from new generation, including the role of battery energy storage systems and other inverter connected resources
- an understanding of commercial challenges related to investment in SRAS capability
- ways to improve investment incentives to enable future SRAS technologies and whether the Standard can be revised to enable stronger responses to system restart
- whether the form of the Standard requires change and how this might impact the methodology used to determine the Standard's settings

The issues paper also explores **transparency and reporting** in relation to SRAS sufficiency and emerging system restart risks. The Panel is interested in stakeholder views to help investigate whether the current reporting arrangements provide sufficient transparency to signal the need for investment in new SRAS capability.

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