



Review of the power system restart standard

Draft Determination released 25 August 2016

The Reliability Panel has called for public submissions on proposed changes to the System Restart Standard. The draft standard has been tailored to suit each electrical sub-network.

This review

Blackouts can have significant economic and social impacts, so it is important there are enough restart services available to quickly restore power supply.

In April 2015 the Commission changed the system restart ancillary services frameworks so consumers pay no more than necessary for the restoration of electricity supplies after large-scale outages. The April 2015 rule changes required the Reliability Panel to review the System Restart Standard.

The Reliability Panel's work

A reliable and secure electricity market is one in which consumers are able to access power when and where they need it. The market for demand and supply of electricity is called the National Electricity Market (NEM). It is operated by the Australian Energy Market Operator (AEMO) under rules set by the Australian Energy Market Commission (AEMC). The AEMC's Reliability Panel defines the power system security and reliability standards necessary to provide a reliable and secure electricity market - against which the NEM's performance is measured and reported.

The Power System Restart Standard

Security events in the NEM are caused by sudden equipment failures. The System Restart Standard provides the market operator with requirements for restoring generation and transmission system operations. AEMO meets the standard by purchasing restart services from generators across the market. The System Restart Standard is not an operational standard – it is a procurement standard under which AEMO is required to contract System Restart Ancillary Services (SRAS) from generators.

Recovering the system

After a power outage most generators need to get energy from the grid to start generating electricity again. If supply from the system is lost, most generators are not capable of independently restarting in the event of tripping off.

Some generators have specialised equipment that allows them to restart without external support. These generators would then be available to restore other generators, and hence begin restoring the system. AEMO purchases the ongoing availability of such generators as SRAS. These ancillary services are a backup providing dependable restart capability. In the event of a major supply disruption, contracted SRAS may be called on by AEMO to supply sufficient energy to restart power stations in order to begin the process of restoring the power system.

The Reliability Panel's task

The panel received Terms of Reference from the AEMC on 30 June 2015 to undertake this review. In assessing the new Standard, the Panel examined the trade-off between the ongoing cost of the provision of SRAS and the potential cost of an extended outage. In addition, the Panel considered the physical underpinnings of the power system and the international context for restoration from major supply disruptions.

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Submissions on this draft determination are due by 6 October 2016

The Draft System Restart Standard

The Standard must contain several parameters for the restoration of the power system following a major supply disruption, including:

- the maximum amount of time in which a specified level of supply must be restored in each sub-network, and
- the aggregate level of reliability of restart services in each sub-network.

The focus of the System Restart Standard is on the restoration of capacity of generators, which can then be used for restoring supply to load. It does not set out the process of restoring supply to consumers directly following blackouts within a distribution network or on localised areas of the transmission networks.

The panel has tailored the level and time components of the Draft Standard for each electrical sub-network to reflect the speed at which the generation can be restored, the characteristics of the transmission network and the economic circumstances that apply to the sub-network.

The Draft Standard includes revised the guidelines for the determination of sub-networks by AEMO as well as revising the guidelines for the treatment of diversity in relation to SRAS. The Draft Standard requires AEMO to specifically consider the diversity criteria when it assesses the aggregate reliability of each sub-network.

Timeline

The Terms of Reference require that the Panel have completed the review of the Standard by December 2016. The below timetable is indicative:

Milestone	Proposed date
Publication of Draft Determination	25 August 2016
Public Forum – Draft Determination	21 September 2016
Close of submissions to Draft Determination	6 October 2016
Final Report and Standard	17 November 2016

The panel is planning a public forum to discuss the Draft Standard with stakeholders on 21st September 2016.

For information contact:

AEMC Senior Director, **Suzanne Falvi** (02) 8296 7800
AEMC Director, **Julian Eggleston** (02) 8296 7800

Media: Communication Manager, Prudence Anderson 0404 821 935 or (02) 8296 7817

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