

RELIABILITY PANEL AEMC - REVIEW OF THE SYSTEM RESTART STANDARD - DRAFT DETERMINATION (REL0091)

16 OCTOBER 2025

INTRODUCTION

The Energy Users' Association of Australia (EUAA) is the peak body representing Australian commercial and industrial energy users. Our members are the engine room of the Australian economy, producing many of the products that households and business use every day including bricks, glass, steel, aluminium, paper, food and beverages. Combined, our members employ over 1 million Australians, pay billions in energy bills every year and in many cases are exposed to the fluctuations and challenges of international trade.

EUAA members are focussed on making products that meet their own customers' requirements where energy is just one input to the process albeit a critical one. Their expectation is that the energy industry continues to provide energy services that are fit for purpose and consistent with the National Electricity Objectives (NEO) so that our members can continue to provide a fit for purpose product for their customers.

Thank you for the opportunity to make a submission under the Reliability Panel AEMC - Review of the System Restart Standard - Draft Determination (REL0091).

As our members utilize a significant quantity of electricity, it is disappointing to read that they are not considered as part of the system restart procedures in the Draft Determination. This is a critical issue for many of our members as a system black event will be costly to all, however for some of our members it would result in total destruction of their plant with the proposed grid restoration timelines. This is incredible given that many of those plants that would be destroyed are considered critical sensitive loads, they actively participate in the NEM through frequency response and/or the Reliability and Emergency Trader (RERT) mechanisms along with producing enormous economic benefits to Australia.

The EUAA supports the design of rules, standards and procedures that achieve efficient, cost effective and equitable outcomes for networks, generators and consumers. If a rule, standard or procedure is no longer working, the EUAA encourages a review and re-design so that they function as they were intended. With a changing NEM, this may require regular reviews, particularly through the messy middle of the transition.

LARGE LOADS CRITICAL TO RESTORATION

As discussed in our submission to the Issues Paper, we believe the entire system restart rules, standards and procedures are overdue for an overhaul. Changes that should have been considered in the Reliability Panel's review include the addition of large loads as a System Restart Ancillary Service (SRAS) provider with responsibilities for system restart, primarily as the foundation load, ramping up at the same rate as generation. This evolution will

provide AEMO, generators and networks with further load availability information, including ramping rates and the ability to better coordinate network services to bring stable restoration islands.

AEMO provided the evidence for large loads providing stability to the electrical system during restoration processes in its *System Restart Technical Advice*:

“Step changes in voltage and system frequency due to the re-connection of network elements or blocks of consumer load are particularly pronounced when a small number of generating units are operating and minimal network elements are connected. As such, particular care must be taken when reconnecting load in the early stages of power system restoration by limiting the size of energised load blocks. Apart from being limited in size, other sought-after characteristics for load that is re-energised in Stage 1 and 2 of the restart process include being reasonably predictable and constant.”

“...the size of the blocks of load that can be connected are typically limited to approximately 5-10 MW to maintain the voltage and frequency stability of the network as it is being restored. As the electrical island increases in size, load block size may increase”

In practice, large loads can be predictable in their ramp-up rates, which can be synchronised to generation restoration, bringing restoration of larger blocks of load sooner while limiting the frequency and voltage variations across the restored network and acting as a “dampener” for frequency and voltage fluctuations as smaller loads are re-connected. This means that smaller consumers are able to be restored sooner than if large loads were not considered.

Additionally, the voltage and frequency fluctuations created by Consumer Energy Resources acting independently to the restoration process have a smaller impact on the overall system stability when large loads are restored early in the restoration process. This allows for faster restoration, and potentially daylight restoration without interventions like switching rooftop solar off.

Additionally, the electricity networks moving away from centralised power generation centres (e.g. Latrobe, Hunter etc), but rather are regionally dispersed, disparate and variable energy supplies. Many of the large loads are regionally based and to some degree matching with the ‘new world’ – they help better ‘soak up’ the generation that would help build stability in these networks and regions (that provide much of the power now) and enable more controlled restart to critical areas and loads. Take Portland Smelter as an example. It is located on the border of SA and Vic. It can help serve both regional markets if the processes and principles are well designed.

The Reliability Panel has argued it is inequitable for a single beneficiary (i.e. large load) to be the recipient of faster restoration if the costs are socialised to all consumers and the large load does not pay independently (through an energy support agreement) for the apparent privilege. We have two concerns with this argument by the Reliability Panel:

- large loads provide system services as part of normal operations, e.g. large loads currently help avoid potential black out scenarios through minimum demand periods. Large loads are providing a service that they are not currently broadly recognised for providing. In order to ensure this support is maintained, then large loads should be restored in the system as quickly as possible. Should large loads be destroyed during a

system black event, AEMO will not have access to their crucial service during minimum demand or other system security events.

- The current provisions around an energy support agreement do not require AEMO to include energy support agreements in the overall sub-region restart plan.

This equity argument also does not consider the critical nature of large loads providing frequency and voltage stability and other system services during restoration. For the Reliability Panel to argue that the large loads should pay for their own restoration services is also inequitable as the services provided by large loads allow for improved timelines of restoration making allocation of benefits less clear, i.e. everybody benefits from an accelerated and stable restoration.

While we support the addition of the requirement for AEMO to consult with the relevant Jurisdictional System Security Coordinator (JSSC) regarding sensitive loads at Clause 10 of the draft standard:

“AEMO must consult with the relevant jurisdictional system security coordinator (JSSC) in relation to the strategic location of SRAS for each electrical sub-network and the existence of any sensitive loads”

We suggest that the critical nature of large loads to the electrical system should be specifically recognised, including adding large loads at Clause 9 as an SRAS supplier.

PROVISION FOR ENERGY SUPPORT AGREEMENTS IN SYSTEM RESTART STANDARD

Should the Reliability Panel’s Final Determination recommend large loads utilize energy support agreements as insurance for system black events, then the following rule changes must also be made:

A new clause 4.8.12(c):

4.8.12(c) must take into account and give effect to any energy support arrangement as set out in a local black start system procedure as detailed in accordance with clause 4.8.12(f).

Also clause 4.8.12(g) should include a provision that AEMO can only require provision of system restart or system restart support service where a contractual obligation exists.

4.8.12(g)(3) services to be provided under a system restart or system restart support services agreement. AEMO must not require the provision of a service under the local black system procedure which is not supplied in accordance with a system restart or system restart support services agreement or registered generator performance standard

PERFORMANCE TARGETS

The EUAA supports the Reliability Panel in its development of a revised performance-based System Restart Standard, however this also needs to reflect the needs of consumers to gain their confidence in the process. In recent power outages across the National Electricity Market (NEM), the most frequent queries asked of network

operators was “when will my power be restored?”. This is also evidenced by the influx of traffic to the relevant outage tracker web pages during widespread outages.

The revised Target Restoration Timeframes at Clause 3 of the Draft Standard do not provide restoration confidence to consumers. While Clause 3 shifts from a MW outcome (that has little relevance to actual demand) within specified durations for each jurisdiction to “achieving a stable restoration island” within 2 hours and restoring 50% of forecast average annual underlying demand within 8 hours it does not provide consumers with details outside of these two performance targets which we note are not operational requirements.

We believe the standard could be further improved by either making these performance standards operational requirements or having interim performance targets and a performance target for full restoration of the “undamaged” network areas.

The problem we see with the current proposed performance targets is that they provide little information to consumers on the probability of restoration within a given timeframe and therefore make it impossible for consumers to plan adequate actions for a system black event. Armed with timelines for incremental restoration performance targets including the likely time for full restoration provides all consumers the ability to take early action.

RESTORATION PATHWAYS

We note that both AEMO and AusNet Services requested specific prescriptive requirements be added to the NER to test existing and new restoration pathways (i.e. transmission network paths) to the already existing requirement to test SRAS generators. We are disappointed with the Reliability Panel’s response that its interpretation of NER clauses 4.3.6(b) and (h) provides discretion that AEMO “can” test restoration pathways. We believe “Can” and “Must” carry with them very different risk profiles for AEMO, generators, TNSPs, consumers and the Reliability Panel itself.

That AEMO and AusNet Services believe the NER needs to be changed so that network pathways must be tested is evidence that the network pathways are currently a large risk to secure, reliable and timely restoration in the event of a system black and that proper planning and preparation ahead of a system black is key to successful and timely restoration.

We recommend that the Reliability Panel make the appropriate changes to the NER for regular testing of system restart pathways.

CONCLUDING REMARKS

The system restart standard must ensure that restart plans are practical and can restore power to sensitive loads within their critical timeframe and with a high degree of probability to avoid large business losses that will flow on to all consumers through increased prices. Changes to the regulatory framework to address this gap would not only avoid catastrophic disaster for businesses but would also provide a wider NEM benefit through leveraging large loads to coordinate bringing NEM generators back online as quickly as possible following a system black event.

Large loads can play a vital role in securing the system restart efforts in the NEM by mitigating risks associated with uncontrolled solar generation and damaged transmission infrastructure caused by bushfires or other natural disasters. We are seeking that these considerations be incorporated into the Reliability Panel's work to assess fit-for-purpose pathways that should be reflected in future SRAS procurement.

We are concerned that consumers have not been adequately considered in the formulation of the Draft Standard and encourage the Reliability Panel to correct this oversight.

There is also a need for appropriate funding to be allocated for technical engineering modelling that reflects the real world today and the future status of the grid. This modelling should also include a review of what technologies in which locations are needed for SRAS going forward to avoid one or more sub-regions being at risk of being black for unacceptable periods of time. This modelling should then be used for economic modelling to determine what regulatory changes are needed to support having fit-for-purpose SRAS available. The output of these studies may lead to infrastructure upgrades, new standards/obligations for certain technologies/generators and large loads to require them to provide SRAS. This modelling should be performed with and without large loads acting as shock absorbers of system security issues during system restart and minimum demand periods.

The EUAA welcomes further discussions with us and our members around the issues raised in this submission.

Do not hesitate to be in contact with EUAA Policy Manager Dr Leigh Clemow, should you have any questions.



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