



System Restart Ancillary Services Guideline 2026

Consultation paper -
Standard consultation for the
National Electricity Market

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New South Wales | Queensland | South Australia | Victoria | Australian Capital Territory | Tasmania | Western Australia

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Explanatory statement and consultation notice

This consultation paper commences the first stage of the standard rules consultation procedure conducted by AEMO to consult on changes to the System Restart Ancillary Services (**SRAS**) Guideline (**Guideline**).

On 11 December 2025, the Reliability Panel (**Panel**) published its Final Report of the Review of the System Restart Standard. The System Restart Standard (**revised Standard**) determined by the Reliability Panel guides AEMO in its procurement of SRAS in the National Electricity Market: the SRAS procurement objective in clause 3.11.7 of the National Electricity Rules (**NER**) requires AEMO to acquire SRAS to meet the revised Standard.

Under clause 3.11.7, AEMO must develop and publish the Guideline. The Guideline explains how AEMO proposes to procure sufficient SRAS to meet the revised Standard to allow the restoration of power system security following a major disruption.

The Panel's Final Determination introduces the following key changes to the revised Standard:

- Restoration Timeframes
- Aggregate reliability
- Guidelines for the characteristics of restoration islands
- Guideline for AEMO on assessing the diversity of services
- Consideration of sensitive loads

AEMO has prepared a draft SRAS Guideline (**'proposal'**) for consultation that updates and expands enhanced technical requirements for black start services reflecting operational experience, and reflects changes following publication of the revised Standard incorporating:

- Description of new target timeframes.
- Description of new aggregate reliability requirements.
- Updated technical requirements of black start services to include characteristics of restoration islands.
- Updated diversity requirements to include systemic risks.
- Updated strategic location considerations of SRAS.
- Clarification on how aggregate reliability is calculated.
- Other minor updates required by the updated standard.

It is important for stakeholders to read this Issues Paper with the AEMC's Final Determination and Final System Restart Standard which can be found on the AEMC website.¹

¹ <https://www.aemc.gov.au/market-reviews-advice/review-system-restart-standard-0>

Consultation notice

AEMO is now consulting on this proposal and invites written submissions from interested persons on the issues identified in this paper to NEMReform@aemo.com.au by 5:00pm (Melbourne time) on 20 April 2026.

Submissions may make alternative or additional proposals you consider may better meet the objectives of this consultation and the national electricity objective in section 7 of the National Electricity Law. Please include supporting reasons.

Before making a submission, please read and take note of AEMO's consultation submission guidelines, which can be found at <https://aemo.com.au/consultations>. Subject to those guidelines, submissions will be published on AEMO's website.

Please identify any parts of your submission that you wish to remain confidential, and explain why. AEMO may still publish that information if it does not consider it to be confidential, but will consult with you before doing so. Material identified as confidential may be given less weight in the decision-making process than material that is published.

Submissions received after the closing date and time will not be valid, and AEMO is not obliged to consider them. Any late submissions should explain the reason for lateness and the detriment to you if AEMO does not consider your submission.

Interested persons can request a meeting with AEMO to discuss any particularly complex, sensitive or confidential matters relating to the proposal. Please refer to NER 8.9.1(k). Meeting requests must be received by the end of the submission period and include reasons for the request. We will try to accommodate reasonable meeting requests but, where appropriate, we may hold joint meetings with other stakeholders or convene a meeting with a broader industry group. Subject to confidentiality restrictions, AEMO will publish a summary of matters discussed at stakeholder meetings.

Explanatory statement and consultation notice	2
1. Stakeholder consultation process	5
2. Background	6
2.1. Context for this consultation	6
2.2. NER requirements	7
2.3. The national electricity objective	7
3. Proposal discussion	8
3.1. System Restart Standard	8
3.2. Capability Requirements - General	9
3.3. Technical Requirements - Black Start Services including formation of stable restoration island	10
3.4. Information and updates required	10
3.5. Power System Studies	10
3.6. Diversity: Systemic Risks	11
3.7. Strategic Location of Services	11
3.8. Appendices	12
3.9. Proposed effective date	13
3.10. Issues for consultation	13

1. Stakeholder consultation process

As required by the National Electricity Rules (**NER**) clause 3.11.7(f) and 3.11.8, AEMO is consulting on amendments to the System Restart Ancillary Services (SRAS) Guideline and the boundaries of electrical sub-networks incorporated in the Guideline, in accordance with the standard rules consultation procedure in NER 8.9.2.

Note that this document uses terms defined in the NER, which are intended to have the same meanings.

AEMO's indicative process and timeline for this consultation are outlined below. Future dates may be adjusted and additional steps may be included, if necessary, as the consultation progresses.

Consultation steps	Dates
Consultation paper published	19 March 2026
Submissions due on consultation paper	20 April 2026
Draft report published	12 May 2026
Submissions due on draft report	9 June 2026
Final report published	7 July 2026

The effective date of the new SRAS guideline is 1 July 2027.

2. Background

2.1. Context for this consultation

On 11 December 2025, the Panel published a final determination for the Review of the System Restart Standard. The final determination includes a revised system restart standard (**revised Standard**) along with final recommendations for actions to enhance system restart preparedness. Changes to the Standard have been informed by AEMO's system restart technical advice and responses from stakeholders to the draft determination.

An important element of the revisions to the Standard is the introduction of new guidelines for the characteristics of a 'restoration island', which can be formed by multiple SRAS services or a single SRAS service. The flexibility to accommodate either scenario is important, especially as the system evolves to include a wider range of technologies and configurations.

The revised Standard includes the following key changes:

Restoration Timeframes

- Revised restoration targets for AEMO to procure SRAS to be able to:
 - form one or more restoration islands in an electrical sub-network within 2 hours of a major supply disruption, and
 - restore supply to 50% of forecast annual average underlying demand in that electrical sub-network within 8 hours of the major supply disruption.

Aggregate required reliability

- The aggregate required reliability of SRAS to form the required restoration islands for an electrical sub-network shall meet or exceed 95% in each electrical sub-network. Aggregate required reliability is the expected probability that the SRAS procured will perform as expected to form the required restoration islands. This change increases aggregate reliability of SRAS for Queensland (QLD), New South Wales (NSW), South Australia (SA) and Victoria (VIC) from 90% to 95%, and will drive additional procurement of SRAS in NSW, SA and VIC.

Guidelines for the characteristics of restoration islands

- Introduces an additional requirement for AEMO to consider systemic risks potentially impacting SRAS services which are associated with common mode of electrical or physical failures, when considering the diversity of SRAS services and the aggregate reliability of SRAS in each electrical sub-network.

Consideration of sensitive loads

- Includes additional guidance for AEMO to consult with the relevant jurisdictional system security coordinator (JSSC) in relation to the strategic location and number of SRAS for each electrical sub-network, and the existence of any priority or sensitive loads. This addresses issues identified by stakeholders to support energisation of sensitive or priority loads in the electrical sub-network to minimise commercial impacts following major supply disruptions. AEMO is required to report to the Panel in writing on how it considered any such advice by a JSSC.

AEMO is required under clause 3.11.7(c) of the NER to develop and publish a *SRAS Guideline*. The *SRAS Guideline* is designed to achieve the *SRAS Procurement Objective* which requires AEMO to use reasonable endeavours to acquire SRASs to meet the system restart standard at the lowest long-term cost. The Panel's Final Determination

notes AEMO is required to consult on changes to the *SRAS Guideline* to meet the new requirements of the revised Standard. The revised Standard will take effect from 1 July 2027.

The Reliability Panel's final determination noted that the revised Standard will guide AEMO's next SRAS procurement². AEMO is therefore consulting on changes to the Guideline to implement the revised Standard prior to beginning AEMO's next procurement of SRAS in mid-2026. This ensures AEMO can plan and procure sufficient SRAS in this procurement process to meet the revised Standard. This consultation is seeking feedback on these proposed amendments to the Guideline.

2.2. NER requirements

NER 3.11.7(c) requires AEMO to develop and publish the *SRAS Guideline*, which must be designed to meet the *SRAS Procurement Objective*. The *SRAS Guideline* must include the matters set out in NER 3.11.7(d). NER 3.11.7(f) requires AEMO to consult on amendments to the *SRAS Guideline* in accordance with the Rules consultation procedures.

NER 3.11.8(c) requires AEMO to consult in accordance with the Rules consultation procedures in determining the boundaries of electrical sub-networks.

2.3. The national electricity objective

Within the specific requirements of the NER applicable to this proposal, AEMO will seek to make a determination that is consistent with the national electricity objective (NEO) and, where considering options, to select the one best aligned with the NEO.

The NEO is expressed in section 7 of the National Electricity Law as:

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:

- (a) price, quality, safety, reliability and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system; and
- (c) the achievement of targets set by a participating jurisdiction—
 - (i) for reducing Australia's greenhouse gas emissions; or
 - (ii) that are likely to contribute to reducing Australia's greenhouse gas emissions.

² Final determination, paragraph 15.

3. Proposal discussion

AEMO is proposing the following changes to the Guideline to implement the changes to the revised Standard made by the Reliability Panel as well as consider new inclusions that relate to different technologies supplying SRAS. These proposals are explored in following section.

3.1. System Restart Standard

3.1.1. Description and effect of proposal

AEMO has proposed changes to the description of the System Restart Standard in *SRAS Guideline* section 2.4 'System Restart Standard' to reflect changes to the Standard. These changes are described below. They are factual changes reflecting the revised Standard.

Target Restoration Timeframes

The Standard includes revised target timeframes for the restoration of supply following a major supply disruption. These targets support AEMO's procurement of SRAS, including black start and restoration support services, which deliver the capability to independently re-energise the power system in the event of a major outage.

For each electrical sub-network, AEMO is required to procure SRAS with the capacity and capabilities sufficient to support the following restoration timeframes following a major supply disruption:

1. *Form one or more restoration islands in an electrical sub-network within 2 hours of the major supply disruption*

These changes to the Standard and removal of a quantitative target level allows AEMO to form restoration islands using a broader mix of technologies, rather than being constrained to large synchronous generators with high MW capacity, although large synchronous generators are expected to play a role in achieving the new requirement of 50% of the forecast average annual underlying demand in the short to medium term. This is especially important as the system transitions toward integrating more inverter-based resources (IBR) which may not individually meet traditional MW thresholds but may collectively contribute to a stable restoration island from which further capacity can be restored.

2. *Use those restoration islands to restore generation and transmission in that electrical sub-network equivalent to the capacity to supply 50% of the forecast average annual underlying demand in that electrical sub-network within 8 hours of the major supply disruption*

This sets a quantitative target level of supply at 50% of forecast average annual underlying demand, and provides an adaptive reference value, which considers the changes in the power system that includes total electricity consumption as well as rooftop PV generation.

AEMO proposes that section 2.4(a) of the Guideline is updated to detail the revised target restoration timeframes where supply is not available from any neighbouring electrical sub-network. Specifically:

- i. form one or more restoration islands in an electrical sub-network within 2 hours of the major supply disruption; and
- ii. use those restoration islands to restore generation and transmission capacity equivalent to 50% of the forecast average annual underlying demand in that electrical sub-network within 8 hours of the major supply disruption

Aggregate Reliability for SRAS

The aggregate reliability represents the expected probability that the SRAS procured for an electrical sub-network will perform as intended to form the necessary restoration island(s). The Standard has increased the required reliability of SRAS to 95% across all mainland electrical sub-networks, except for the electrical sub-networks of New South Wales and Queensland, detailed in section 6 of the Standard.

To reflect these changes, AEMO proposes that three new sub-clauses are included in 2.4(b) of the Guideline:

- i. for each electrical sub-network, the aggregate required reliability shall meet or exceed 95%;
- ii. for the New South Wales electrical sub-network, AEMO shall procure SRAS sufficient to independently restart, form and maintain at least one restoration island north of Sydney within two hours of a major supply disruption without drawing power from the power system, with an aggregate reliability of at least 75%; and
- iii. for the Queensland electrical sub-network, AEMO shall procure SRAS sufficient to independently restart, form and maintain at least one restoration island north of Bundaberg within two hours of a major supply disruption without drawing power from the power system, with an aggregate reliability of at least 80%.

A new appendix, Appendix E, is proposed to be included in the Guideline to clarify how AEMO will calculate the aggregated level of reliability for an electrical sub-network.

Removal of Table 1

Table 1 is proposed to be removed as a consequence of the Standard harmonising the required SRAS to 95% across all mainland electrical sub-networks.

3.1.2. Questions for consultation

AEMO asks stakeholders if the proposed amendments reflect and support implementation of the revised Standard.

3.2. Capability Requirements - General

3.2.1. Description and effect of proposal

An SRAS must be provided using SRAS equipment that has data communication facilities meeting the applicable requirements of the Power System Data Communication Standard published by AEMO under clause 4.11.2 of the NER. AEMO proposes additional wording to *SRAS Guideline* section 3.2(c) 'Capability Requirements – General' to require that an SRAS has physical presence or local control capability following an event, with established alternative communications or fallback mechanisms to ensure SRAS is continued.

3.2.2. Questions for consultation

AEMO asks stakeholders to consider if this inclusion is appropriate and propose what types of alternative communications or fallback mechanisms should be provided to ensure continued operability of SRAS.

3.3. Technical Requirements - Black Start Services including formation of stable restoration island

3.3.1. Description and effect of proposal

Under changes to the Standard, AEMO is required to determine the specific operational characteristics for restoration islands. AEMO proposes the following change to *SRAS Guideline* section 3.3 'Technical Requirements - Black Start Services including formation of stable restoration island':

- modification to sub-section (j) to meet the requirement of the Standard. This requires SRAS that provides a Black Start Service to demonstrate the capability to support the return of network and load to service commensurate with the available generation throughout the rest of the restoration process.

These changes meet the requirements described in section 5 of the Standard.

3.3.2. Questions for consultation

AEMO asks stakeholders if the proposed technical requirements for Black Start Services including formation of stable restoration meets the requirements of the Standard? If not, what changes should be made to this section?

3.4. Information and updates required

3.4.1. Description and effect of proposal

Section 10 of the Standard, Guidelines for the strategic location of services, introduces an additional requirement for AEMO to consult with Jurisdictional System Security Coordinators (JSSC) in relation to the strategic location of SRAS, based on the JSSC's assessment of commercial implications following major supply disruptions for priority loads and any sensitive loads. AEMO proposes to update *SRAS Guideline* section 5.2 'Information and updates required', in particular, section 5.2(c) to incorporate relevant text from the Standard into the *SRAS Guideline*.

In addition, AEMO propose an amendment to *SRAS Guideline* section 5.2(d) to include the word 'review' modelling data, for assessment purposes. The intent of this change is to confirm that modelling data is accurate.

3.4.2. Questions for consultation

AEMO asks stakeholders if changes are required to section 5.2 and whether the amendment of section 5.2(c) and additional requirement to 'review' modelling data is reasonable.

3.5. Power System Studies

3.5.1. Description and effect of proposal

AEMO has proposed an additional EMT study is available to verify system strength sufficiency for stable operation of Inverter Based Resources in the restart plan.

3.5.2. Questions for consultation

AEMO asks stakeholders to consider if the proposed update to include additional EMT studies to verify system strength sufficiency for stable operation of IBRs in the restart plan is warranted.

3.6. Diversity: Systemic Risks

3.6.1. Description and effect of proposal

AEMO proposes a new section in the Guideline, Section 5.5.4 'Additional principles for systemic risk diversity', which details new principles and assumptions to be applied by AEMO when determining systemic risks for the aggregate reliability of the electrical sub-network and accounting for transmission system reliability. These additions were included in the Reliability Panel's Final Report and recommended by Powerlink. AEMO proposes to incorporate this content in this new section. The details of the section are below:

- a) common mode risks associated with systemic and operational vulnerabilities are considered to exist where an associated incident can impact the ability of more than one SRAS to form or maintain a restoration island;
- b) cyber security threats include but are not limited to risk of cyber-attacks, ransomware or phishing risks, and physical supply chain issues impacting more than one SRAS is considered a common mode risk;
- c) where more than one SRAS use common control system platforms or communication network, this is considered a common mode risk; and
- d) industrial action or workforce disruptions which may impact more than one SRAS is considered a common mode risk.

3.6.2. Questions for consultation

AEMO asks stakeholders if these additional principles and assumptions to be applied when determining systemic risk diversity for the aggregate reliability of the electrical sub-network and accounting for transmission system reliability are appropriate or to suggest what changes should be made to this proposed new section of the Guideline.

3.7. Strategic Location of Services

3.7.1. Description and effect of proposal

AEMO proposes to include a new sub-section (c) in section 5.5.6 'Strategic Location of SRAS' to reflect the requirement of the revised Guideline for AEMO to consult with the relevant Jurisdictional System Security Coordinator (JSSC) in relation to the strategic location and number of SRAS for each electrical sub-network and the existence of any priority or sensitive loads when assessing an SRAS as having a strategic location. A new defined term, JSSC, is proposed to be included in the Glossary in section 1.3.1 of the *SRAS Guideline*.

3.7.2. Questions for consultation

AEMO asks stakeholders if proposed sub-section 5.5.6(c) 'Strategic location of SRAS' meets the requirement of the Standard. If not, what changes should be made to this section of the Guideline.

3.8. Appendices

3.8.1. Description and effect of proposal

AEMO proposes an amendment to one appendix and includes two new appendices to support the Guideline.

Appendix D3: Restoration support service capability examples

AEMO proposes to add examples of capability restoration support services.

Appendix E: Example calculation of aggregate reliability

The Standard requires an aggregated level of reliability per region of 95% or higher. To assist stakeholders to understand how AEMO calculates the aggregated level of reliability for an electrical sub-network, AEMO has provided an aggregate calculation of reliability.

Appendix F: Attributes of a stable island

AEMO proposes to define the attributes of a stable island to specify operational characteristics for restoration islands.

3.8.2. Questions for consultation

Are additional examples required of restoration support services in Appendix D3?

Does proposed Appendix E provide adequate guidance for stakeholders to clarify the calculation of the aggregated level of reliability for an electrical sub-network? If not, how should the example be framed?

Are the attributes of a stable island appropriate as proposed in Appendix F, are there any other attributes that a stable island refers to?

AEMO advise stakeholders that maps to the electrical sub-networks described in Appendix C will be updated as part of the Draft Report.

3.9. Proposed effective date

The proposed effective date of the revised *SRAS Guideline* is 1 July 2027.

3.10. Issues for consultation

AEMO seeks comment and feedback on whether the changes to the draft *SRAS Guideline* satisfies the changes to the Standard. AEMO welcomes any other suggestions about other issues that stakeholder believe are relevant to the review of Guideline.

Questions

- AEMO asks stakeholders if the proposed amendments reflect and support implementation of the revised Standard.
- AEMO asks stakeholders to consider if this inclusion is appropriate and propose what types of alternative communications or fallback mechanisms should be provided to ensure continued operability of SRAS.
- AEMO asks stakeholders if the proposed technical requirements for Black Start Services including formation of stable restoration meets the requirement of the Standard? If not, what changes should be made to this section?
- AEMO asks stakeholders if changes are required to section 5.2 and whether the amendment of clause 5.2(c) and additional requirement to ‘review’ modelling data is reasonable.
- AEMO asks stakeholders to consider if the proposed update to include additional EMT studies to verify system strength sufficiency for stable operation of IBRs in the restart plant is warranted.
- AEMO asks stakeholders if these additional principles and assumptions to be applied when determining systemic risk diversity for the aggregate reliability of the electrical sub-network and accounting for transmission system reliability are appropriate or to suggest what changes should be made to this proposed new section of the Guideline.
- AEMO asks stakeholders if proposed sub-section 5.5.6(c) ‘Strategic location of SRAS meets the requirement of the Standard. If not, what changes should be made to this section of the Guideline.
- Are additional examples required of restoration support services in Appendix D3?
- Does proposed Appendix E provide adequate guidance for stakeholders to clarify the calculation of the aggregated level of reliability for an electrical sub-network? If not, how should the example be framed?
- Are the attributes of a stable island appropriate as proposed in Appendix F, are there any other attributes that a stable island refers to?
- Are there any other issues or comments stakeholders would like to make regarding the proposed changes to the Guideline?