16 October 2025

RE: REL0091 – Draft Determination – Review of the System Restart Standard

Shell Energy welcomes the opportunity to provide feedback to the Reliability Panel's consultation on the Draft Determination for the Review of the System Restart Standard.

About Shell Energy in Australia

Shell Energy is an energy solutions business and renewables and battery energy storage system developer in Australia. As the one of the largest electricity providers to commercial and industrial businesses in Australia[1], Shell Energy offers integrated solutions and market-leading[2] customer satisfaction, innovation across a portfolio of electricity, gas, environmental products and energy productivity. Our residential energy retailing business Powershop, acquired in 2022, serves households and small business customers in Australia.

Our generation assets include 662 megawatts of gas-fired peaking power stations in Western Australia and Queensland, supporting the transition to renewables, and the 120-megawatt Gangarri solar energy development in Queensland. Shell Energy also operates the 60MW Riverina Storage System 1 in NSW, as well as the 200MW Rangebank Storage System and 370MW Koorangie Storage System both located in Victoria. Shell Energy Australia Pty Ltd and its subsidiaries trade as Shell Energy, while Powershop Australia Pty Ltd trades as Powershop. Further information about Shell Energy and our operations can be found on our website here.

General Comments

Shell Energy supports many of the views and proposed changes set out by the Reliability Panel in the Draft Determination. The National Electricity Market (NEM) is in transition and critical power system services that were readily available from large synchronous generators will be removed from the power system as these large generators exit. They will be replaced by a diverse technology mix of generally smaller capacity supply side and distribution network consumer-based energy resources. Many of these new energy resources will be subject to prevailing weather conditions and will likely be less controllable in output. This will make the task of maintaining power system security and recovering from a power system event more difficult for the Australian Energy Market Operator (AEMO). In light of this, we support the Panel's view that the NEM must have a strong and viable planning standard for power system restart.

Comments on proposed changes to the system restart standard

We support the changes proposed to the Introduction section of the standard which seeks to improve clarity regarding what constitutes a System Restart Ancillary Service (SRAS). However, we are concerned that the standard, whilst clearly referencing "black start capability" does not include a clear reference to "restoration support services" and instead only includes words that could be inferred as having this meaning. Shell Energy offers the following suggested wording change to the draft revised standard for the Panel's consideration (additions in red):

> *"The Panel expects that AEMO's procurement of SRAS may include the provision of plant or facilities with black start capability and other restoration support service capabilities required to sustain the restoration of the power system as described in the SRAS Guideline, noting that SRAS is defined in the NER as (italicised terms are defined under the Rules):"*

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The target restoration timeframes

We agree with and support the changes proposed to the restoration timeframes. However, we do have some concerns that the standard ends with a target to facilitate sufficient generation capability for restoration of only 50% of annual average load by 8 hours. This proposed outcome seems to imply that once this outcome has been achieved restoration of further load may be relatively simple. Alternatively, having generation capability to support restoration of the remaining consumer load is somewhat less important than the original 50% threshold. Such an outcome could see additional time delays in restoring additional load above the 50% threshold. Shell Energy recommends that the Panel consider if a further target threshold of restoration of generation capability equal to 85% of annual average consumer load within a specified timeframe of 16 hours would provide improved certainty of load restoration and economic outcomes to consumers.

In considering this recommendation, we note the relatively significant range of uncertainty in potential load restoration timeframes set out in the Draft Determination and suggest that sensitivity analysis of AEMO's range of load restoration timeframes would be beneficial in understanding the potential benefits to consumers of such an additional change.

Aggregate required reliability of SRAS

Shell Energy supports both the proposed change in definition for aggregate required reliability of SRAS and the increase in the value of the aggregate required reliability of SRAS in the four mainland regions to match the current value in the Tasmanian region.

Guidelines for the characteristics of restoration islands

We support the addition of this new section to the Standard. However, Shell Energy is concerned that the Draft Standard does not require the development and maintenance of a procedural document by AEMO in this area or that this procedural document be subject to stakeholder consultation. We recommend that the final Standard include such a requirement.

Applicability of the Standard in electrical sub-networks

Shell Energy supports the requirements to form and maintain a restoration island, as required, in the geographical areas north of Sydney in NSW and north of Bundaberg in Queensland within the 2 hour threshold. However, we are concerned that this requirement does not then require achievement of restoration of consumer load in these geographical areas. We are also concerned that the aggregate required reliability of achieving the formation of the restoration island is significantly lower than the aggregate required reliability of SRAS in their respective electrical sub-region. The current wording could result in those geographical areas north of Sydney or north of Bundaberg suffering significantly higher economic loss than other geographical areas within the defined NSW or Queensland electrical sub-regions following a system black event impacting these electrical sub-regions.

Use of SRAS in neighbouring electrical sub-networks

We support the continuation of the requirement that an SRAS may only be procured for the provision of SRAS in a single electrical sub-region at any one time. This ensures that sufficient SRAS is procured to allow the simultaneous restart of multiple electrical sub-regions. It is unclear how a single SRAS resource could be effectively utilised to undertake restart services in multiple regions simultaneously if required to do so.

Guidelines for the determination of electrical sub-networks

It is not clear that the current technical characteristics, as set out in the standard, remain fit for purpose in a NEM where many of the new energy resources will be subject to the prevailing weather conditions and will potentially be less controllable. The included technical characteristics are primarily transmission network focused and we recommend that the Panel consider if additional technical requirements are required which consider the future technical characteristics of generation and load in the NEM.

Guidelines for the strategic location of services

Shell Energy supports the changed definition for AEMO to determine the strategic location of SRAS services. However, we are concerned that the Draft Standard does not require the development and maintenance of a procedural document by AEMO in this area or that this procedural document be subject to stakeholder consultation. We recommend that the Standard include such a requirement.

Shell Energy supports the proposed amendment which requires AEMO to consult with the respective jurisdictional system security coordinator (JSSC) regarding provision of system restart for sensitive loads and/or any related energy support arrangements.

We also note the Panel's view regarding the use of energy support agreements to improve the potential for restoration of loads which have critical electricity needs:

> *"The Panel notes that in the event that an individual customer or customers require an increased level of protection from major supply disruptions over and above that provided to them under the Standard, they may make standalone arrangements for the provision of such a service, either through onsite backup generation or by entering into a contract with a third party for energy support."*

However, whilst clause 4.8.12(f)(2) of the National Electricity Rules (NER) require that a Generator's or Network Service Provider's local black start procedure provide details of any energy support agreement, the NER does not require AEMO to consider or operationalise any energy support agreement in its system restart plan. We are also concerned that clause 4.8.12(h) may also further weaken the potential for energy support agreements to be contracted as this clause allows AEMO to request amendments to a local black start procedure which could negate any energy support agreement if AEMO reasonably considers this necessary.

It is our view that this is an unintended weakness in the NER and we believe the reason that no energy support agreements have been contracted in the NEM. The absence of a clear provision in the NER that AEMO must consider an energy support service in their system restart plan allows AEMO to override any energy support agreement and dispatch resources as required using a clause 4.8.9 direction without regard to the fact that no system restart or restart support services had been procured from a resource. It's also unclear whether the proposed amendment to consult with the respective JSSC as noted above will remedy this unintended weakness.

We recommend that as part of this review the Panel considers an addition to clause 4.8.12 of the NER as indicated below to ensure that an energy support agreement must be considered by AEMO when developing a sub-region system restart plan.

> *[c1] must take into account and give effect to any energy support arrangement as set out in a local black start system procedures as detailed in accordance with clause 4.8.12(f).*

The provision of additional clarity in the NER regarding the inclusion of energy support agreements by AEMO in their system restart plan will provide additional benefits in the transparent procurement of system restart and restart support services. If AEMO determines a resource is a critical resource for these services, the onus should be on AEMO to contract for the required service, not to rely on utilising what may be a resource of uncertain availability via the use a clause 4.8.9 direction. If the resource is not critical for these services, then clause

4.8.12(h) should not be used to prevent contracting of an energy support agreement between a resource and a consumer's facility.

Ensuring the NER facilitates the use of energy support agreements will also result in an expansion of available resources to achieve a successful system restart outcome given that additional parties other than AEMO will be seeking to contract for these services. We also note that the costs of an energy support agreement are recovered privately under the contract and does not result in additional cost to all consumers within the respective sub-region.

Shell Energy also recommends that the Panel provide clarity in the Standard, that AEMO in their system restart plan do not contain the intent to utilise uncontracted resources or a resource which is not clearly indicated as being available in a local black start procedure via the use of a clause 4.8.9 direction to achieve the system restart standard. It would be a poor and potentially harmful outcome if achievement of the Standard relied on the use of a resource where the availability of that resource was uncertain.

Summary of draft recommendations for improving restart preparedness

Procurement and investment

Shell Energy supports the Panel's view that the NER provides AEMO with sufficient flexibility and discretion to support the specification and procurement of SRAS to meet the needs of the power system through the transition. We don't consider further changes to the NER in the area of specification and procurement of SRAS are required.

We do not consider it necessary to change the SRAS procurement objective to reference the National Electricity Objective (NEO), as the current requirement to procure SRAS at the 'lowest long-term cost' remains appropriate. We continue to support the Panel's 2020 view that such a change would markedly reduce the clarity around AEMO's obligations when procuring SRAS, as it would have a very broad discretion in how it interprets and applies the NEO. We also note that a similar procurement objective to "minimise costs" rather than reference to the NEO is defined in the NER for the transitional services.

We support the Panel's recommendation that AEMO must commence proactive engagement with stakeholders to identify future system restart needs by leveraging flexibility in the existing system restart framework to procure SRAS and meet any identified SRAS gaps in a timely manner. To date there has been little transparency or engagement with stakeholders in this area which Shell Energy considers has resulted in a lack of attention to this critical area of power system need from investors in new resources. The power system need must be transparently communicated for investment decisions to be analysed by participants attract appropriate investment.

We also support the recommendation that AEMO use Type 2 transitional service for trialling new SRAS technologies to understand their potential role in system restoration. We consider a critical feature of the use of these Type 2 contracts is the timely communication of outcomes by AEMO so that stakeholders are well informed.

Transparency and reporting

Shell Energy supports the Panel's views that transparency around the future needs for SRAS are central to stimulating investment in new system restart capability and that improved forward-looking reporting by AEMO is critical to identifying and meeting the future system restart needs for the NEM. We also agree that this forward focused reporting must be guided by restoration modelling produced by AEMO that considers SRAS needs as the existing large capacity thermal generation fleet retires and is replaced with growing levels of inverter-

connected resources and smaller thermal generation resources over the next decade. It is our view that such modelling must include detailed consultation by AEMO, not only with the Panel, but also with all stakeholders.

We support the Panel's recommendation that AEMO must, as part of the annual Transitional Plan for System Security (TPSS), detail the future power system restart needs over all future planning horizons and determine potential options to procure SRAS that meets these identified SRAS needs. Shell Energy notes that whilst the Panel may provide feedback to AEMO on the annual TPSS, there is currently little if any requirement for formal engagement with stakeholders by AEMO or the Panel in the process. We recommend the Panel consider inclusion of a framework in this area which allows consultation and feedback on the annual TPSS to the Panel by stakeholders, prior to the Panel preparing its feedback to AEMO.

Shell Energy also supports the recommendation that AEMO report on SRAS investment opportunities through the annual Electricity Statement of Opportunities (ESOO) which would include any forecast of a location-specific SRAS gap.

Local black start procedures

The current requirements in NER clause 4.8.12 regarding the requirements for local black start procedures (LBSP) are detailed and specific and remain fit for purpose. Every individual generator resource and network service provider is required to prepare and submit its LBSP to AEMO for approval and amend its LBSP when it becomes aware of any change to details set out in its LBSP which could impact its ability to comply with the approved LBSP. In addition, AEMO may at any time request a generator or network service provider review and confirm the information in its LBSP. It is not clear to us why there are any concerns with the current framework for LBSP. It is our view that all the concerns raised by AEMO in its SRAS technical advice to the Panel are already covered by the requirement of NER clause 4.8.12.

Shell Energy agrees that LBSP must be accurate and set out the inherent capabilities that would be available to AEMO in any system restart event. However, we are concerned that overreliance services identified in LBSPs could result in underperformance or unexpected outcomes during system restoration. This is because services identified in an LBSP can have uncertain availability or may be a service that should be procured as an SRAS. Examples of this could be a requirement to change to full time operational manning at a power station or a requirement to guarantee a minimum level of secondary liquid fuel at site. We consider that the intent of any review of the LBSP framework should be to identify services that will be available in the normal commercial operation of a facility and to require SRAS procurement for services that would otherwise be uncommercial or beyond the expected commercial operating regime.

Shell Energy is concerned that NER clause 4.8.12(g) could be interpreted as allowing AEMO to require otherwise uncommercial arrangements in the LBSP including such changes as indicated above. We agree that it is reasonable for AEMO to do so in accordance with a system restart or system restart support service contract, and appropriate compensation. However, we consider such an outcome is unreasonable for uncontracted services.

We recommend that the Panel consider whether NER clause 4.8.12(g) should include a provision that AEMO can only require provision of a system restart or system restart support service as part of a LBSP where a contractual obligation exists. We provide a suggestion for the Panel's consideration in this area in the form of a new NER clause 4.8.12(g)(3) as follows:

> *(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*

Testing arrangements

Shell Energy is supportive of potential changes to the SRAS testing arrangements where it can be demonstrated such changes deliver economic benefit. Further, we consider that the requirements of the existing NER clause 4.3.6 provide sufficient flexibility in the area of system restart testing to AEMO.

However, we consider that clause 4.8.6(m) under an expanded testing regime would require amendment to include recovery of all costs incurred and not simply defined direct costs. We are concerned that currently the costs imposed on a non-fault party due to any unforeseen event during testing resulting in damage to plant may not be recovered. We consider that the potential for such an unseen event may increase under an expanded testing regime. Similarly, costs from lost market opportunity for resources used, such as BESS state of charge, are not currently able to be recovered. We consider that such costs should be fully recoverable.

The role and governance of the Standard

Shell Energy's strong view is that the Reliability Panel remains the appropriate body to set the requirements of the System Restart Standard. The current roles and responsibilities for the Panel in setting the Standard and AEMO in procuring SRAS to meet the Standard remain mostly appropriate. We do have concerns that the framework for setting of sub-electrical network boundaries may no longer be appropriate, and a change consistent with the recommended inclusion of system restart needs under the TPSS reporting requirements, which would require AEMO to submit the proposed sub-electrical network boundaries to the Panel for review and feedback, would be of benefit.

Whilst the current Standard is noted as being a planning standard focused on the restoration of generation capability sufficient to restore a nominated level of consumer load, in Shell Energy's view it must be recognised by all parties that the actual restoration of consumer load will be required. Restoration of generation capability to the nominated threshold(s) is technically unable to be achieved absent this. We consider that it is possible that the Standard could include provision that AEMO's system restart plan(s) contain more details regarding the load restoration process and load restoration targets, and that these Plan(s) whilst remaining confidential, are subject to review and feedback by the Panel.

We support retention of the requirement in NER clause 8.8.3(aa)(2) that each sub-electrical network is unable to be restarted from an adjacent sub-electrical network. Network connections between sub-electrical networks are primarily composed of transmission lines located within a common geographical flow path, which may be constructed on double circuit towers. Whilst there may be exceptions to this in the future, we don't consider the Standard should be amended to implement different approaches to accommodate different network flow path designs. We also see that a clear advantage of maintaining discrete sub-electrical network provision of SRAS capability is that this allows confidence in the simultaneous restart of multiple sub-electrical regions if required.

Whilst supportive of the current arrangements for demonstration of compliance with the Standard by AEMO, we consider there may be benefit in considering whether the requirements for AEMO's annual non-market ancillary report could be prepared in both a "public" and "confidential" version. The "confidential" version would be submitted to the Panel and potentially the Australian Energy Regulator and the JSSC's for review and feedback. The confidential version would set out additional details regarding compliance with the Standard as well as details of AEMO's system restart plan(s). We consider that such a change would provide increased confidence to all stakeholders that any requirement for restoration of the power system could be achieved within a timely period.

Shell Energy would welcome an opportunity to discuss these issues with the Reliability Panel. Please contact Peter Wormald at peter.wormald@shellenergy.com.au to arrange a discussion or to engage further on this submission.

Yours sincerely,

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