

17 October 2019

Mr John Pierce
Chair
Australian Energy Market Commission
PO BOX A2449
Sydney South NSW 1235

Via online submission

Dear Mr Pierce,

RE ERC0278 – NATIONAL ELECTRICITY AMENDMENT (SYSTEM RESTART SERVICES STANDARDS AND TESTING) RULE 2019

TasNetworks welcomes the opportunity to make a submission to the Australian Energy Market Commission's (**AEMC**) consultation paper on rules to amend the Systems Restart Ancillary Services (**SRAS**) standards and testing.

TasNetworks is the Transmission Network Service Provider (**TNSP**), Distribution Network Service Provider (**DNSP**) and Jurisdictional Planner (**JP**) in Tasmania. TasNetworks is also the proponent assessing the business case for Marinus Link, a new interconnector between Tasmania and Victoria. The focus in all of these roles is to deliver safe and reliable electricity network services to Tasmanian customers at the lowest sustainable prices. TasNetworks is therefore appreciative of the AEMC's efforts to review SRAS arrangements.

TasNetworks supports Energy Networks Australia's (**ENA**) submission and would like to make several further comments with a particular focus on the Tasmanian context. The key points in this submission are:

- TasNetworks supports expanding the definition of SRAS to include system restoration support services but suggests a focus on economically efficient outcomes must remain. This is so that robust cost benefit decisions can be made to provide certainty to customers that proposed changes will be in their interests.
- These support services should not be limited by generation or technology type so as to allow new innovations and markets to be developed. For example, as could be provided by newer High Voltage Direct Current (**HVDC**) technology such as Marinus Link.
- TasNetworks considers these services should be defined in the National Electricity Rules (**NER**) to avoid any ambiguity in terms of which services qualify and the circumstances on which they may be supplied.

- TasNetworks supports the Australian Energy Market Operator (**AEMO**) being able to procure SRAS services from NSPs but considers that there are a number of factors that require further deliberation to ensure an operable and equitable framework results.
- TasNetworks suggests that the AEMC clarify the extent to which the term 'reasonable endeavours' in the SRAS procurement objective covers non-cost factors.
- TasNetworks agrees that SRAS testing is a necessary and important component to ensure confidence in the provision of timely and effective restoration services. However, the costs, risks and time associated with coordinating and undertaking such testing must be carefully weighed against the benefits additional testing might provide.
- Consistent with section 116 of the National Energy Law (**NEL**), TasNetworks considers that TNSPs should be immune from liability for actions taken to conduct testing and that outages for testing purposes should be excluded from Service Target Performance Incentive Scheme (**STPIS**) calculations.
- TasNetworks considers that, in some cases, mandating increased generation connection and compliance standards may be a sub-optimal approach for increasing SRAS provision in an economically efficient manner.
- TasNetworks supports clear and effective communication protocols for SRAS processes. Protocols that provide easily understandable information in operational timeframes will have the greatest chance of materially increasing resilience of the power system.

TasNetworks responses to individual questions are provided below and we welcome the opportunity to discuss this submission further with you. Should you have any questions, please contact Jason King, Leader Network Operations, via email (jason.king@tasnetworks.com.au) or by phone on (03) 6271 6290.

Yours sincerely,



Chantal Hopwood
Leader Regulation

Do stakeholders agree with the proposed assessment framework? Alternatively, are there additional principles that should be taken into account?

TasNetworks considers the assessment principles are suitable for evaluating the proposed changes to the System Restart Ancillary Services (SRAS) framework.

Is it appropriate and/or necessary to expand the definition of SRAS to include system restoration support services, as proposed by AEMO? Will this enhance levels of competition in provision of SRAS, and help to reduce SRAS costs for consumers? If system restoration support services were to be included in the definition of SRAS, do stakeholders have views on the types of services which should be classified as system restoration support services? Is it appropriate for these services to be prescribed in the SRAS Guideline as opposed to the NER? Could this facilitate the development and future utilisation of these services for purposes other than SRAS and, if so, do stakeholders see benefits in such an outcome? Do stakeholders have views on whether AEMO should be able to acquire SRAS from NSPs? What issues are relevant to consideration of this issue?

TasNetworks supports expanding the definition of SRAS to include system restoration support services but suggests the application of additional services should be limited to those restart paths that will achieve the restart standard. This is to ensure total SRAS costs are minimised. That is, and although conceptually agreeing that expanding the definition of SRAS to include other system restoration services is likely to lead to increased competition, whether this will result in lower costs for customers over the long term is an open question.

With the potential for additional services and counterparties to be contracted, the overall cost of coordinating and providing SRAS may actually increase. In this respect, as SRAS is effectively a High Impact Low Probability (**HILP**) service, further consideration of an appropriate, National Electricity Market (**NEM**) wide risk appetite for SRAS and related resilience services is required. This is so that robust cost benefit analyses can be undertaken to provide certainty to customers that any proposed changes will be in their long term interests.

In terms of the types of system restoration services that might be included under an expanded definition, TasNetworks considers these should encompass:

- voltage and frequency control services including fast frequency response,
- inertia services,
- system strength services,
- small and large signal stability requirements within the range of operations required under the black system definition, and in future,
- the capability of grid forming inverters to operate in parallel with synchronous generators, e.g. hunting of frequency controllers or parallel operation of multiple isochronous controllers.

These support services should not be limited by generation or technology type so as to allow new innovations and markets to be developed. For example, the ability to provide SRAS via High Voltage Direct Current (**HVDC**) interconnection is not possible with Line Commutated Converter (**LCC**) technology such as the Basslink interconnector. However, in the case of Voltage-Source Converter (**VSC**) HVDC technology, such as in the proposed Marinus Link, there is an opportunity to specify additional control loops enabling provision of SRAS in a manner similar to energising the system from Alternating Current (**AC**) lines.

It should be noted that this capability is already included in a number of operational VSC HVDC links overseas including ENELFE, Skagerrak 4, Estlink 1 and some HVDC connections to offshore wind farms. In providing grid forming capability that also allows for independent control of voltage and frequency, these links have resulted in very fast network restoration and subsequent parallel operation with generators. Regard for such developments should be incorporated as part of any proposed SRAS framework changes.

Regardless of which services are ultimately determined to be SRAS support services, TasNetworks considers these should be defined in the NER to avoid any ambiguity in terms of which services qualify and the circumstances on which they may be supplied. Moreover, these services should be designed such that existing services are not degraded over time in favour of a paid service, e.g., as has occurred with governor control response in recent times.

TasNetworks supports the Australian Energy Market Operator (**AEMO**) being able to procure SRAS and related support services from Network Service Providers (**NSPs**) but considers that there are a number of factors that require further deliberation to ensure an operable and equitable framework results. Aside from relevant technical considerations relating to the specific SRAS problem to be solved, the most important of these concern:

- The service classification and associated revenue implications. Given these services would otherwise be priced at market rates, it would be inequitable were prices regulated below this were NSPs to provide them. The potential result being that fully competitive markets fail to develop.
- Ring-fencing and shared asset guidelines. As support services would likely utilise existing NSP shared assets, and would be unlikely to be able to be provided via ring-fenced entities, timely and pragmatic updates to these guidelines would be necessary to allow appropriate SRAS provision.
- Registration and licensing considerations. It would be counterproductive to competitive market development if SRAS services could only be offered under separate licensing and/or registration arrangements, whether National or jurisdictional. Moreover, dual registration or licensing may introduce unintended regulatory complications. Adding SRAS support services to the range of existing NSP permitted activities would seem a simpler and more effective approach with less regulatory risk.

Critical to all these considerations is recognition of the customer impacts both in terms of costs but also in service provision. Where NSPs can offer SRAS support services that will improve SRAS service delivery, at reasonable cost, they should be allowed to do so.

Do stakeholders agree with AEMO's characterisation of the issues identified in the rule change request in relation to the SRAS Procurement Objective? Would AEMO's proposed changes to the SRAS Procurement Objective result in stronger incentives for generators to invest in SRAS capabilities? Do stakeholders have views on the potential costs associated with the proposed changes to the SRAS Procurement Objective? Would replacing the lowest-cost objective with a reference to the NEO provide appropriate and clear guidance to AEMO in relation to the procurement of SRAS?

TasNetworks considers that having regard to the National Electricity Objective (**NEO**) may provide too broad a definition to ensure that the standard is met in an economically efficient manner. On the other hand, a too literal interpretation of the lowest cost objective in the current definition of the SRAS procurement objective would seem unlikely to serve customers well in all cases.

As highlighted in the consultation paper, the AEMC removed the prescriptive framework for SRAS as part of the 2015 SRAS rule. This was explicitly intended to allow AEMO to take a flexible approach when procuring SRAS. In this respect, it would seem that the use of the term 'reasonable endeavours' in the current definition fulfils the intent to provide sufficient flexibility to AEMO to take account of non-cost factors when procuring SRAS. TasNetworks therefore suggests that the AEMC clarify the extent to which the term 'reasonable endeavours' covers non-cost factors. If a less literal interpretation of the current SRAS procurement objective supports non-cost factor considerations, then amending the procurement objective as AEMO has proposed would seem redundant.

Notwithstanding these comments, TasNetworks appreciates the situation in Tasmania is different to the rest of the NEM given that there are many conventional generators that can be made available

for black start purposes. In contrast, Mainland states are facing increased retirement of thermal generation and a lack of adequate replacement generation sources which might provide SRAS. If a change to the procurement objective is deemed necessary to incentivise the provision of SRAS and related system restoration services in Mainland states, TasNetworks would support this subject to there being no impact on Tasmanian SRAS processes.

Do stakeholders agree with AEMO's analysis of the issues in relation to the testing of SRAS in the context of a changing power system? Would the proposed change address the issue raised by AEMO? If not, what alternative solutions are there? Can stakeholders provide an indication of the costs associated with the proposed changes? How will these costs affect generators, NSPs and consumers, respectively? Do stakeholders have views on whether the cost recovery arrangements for SRAS testing proposed by AEMO are reasonable and efficient?

TasNetworks agrees that SRAS testing is a necessary and important component to ensure confidence in the provision of timely and effective restoration services. However, the costs, risks and time associated with coordinating and undertaking such testing must be carefully weighed against the benefits additional testing might provide.

Testing full restart capability has the potential to impact both distribution and directly connected transmission load customers, beyond those specific generators providing SRAS services. As highlighted with recent Argentine and United Kingdom black events, downstream impacts to other sectors such as public transportation can have profound economic consequences. In this respect, it is critical to ensure that all parties impacted by SRAS testing are involved in consultative and collaborative test planning over an appropriate timeframe to minimise risks, system downtime and economic costs. For example, aligning SRAS testing with TNSP planned maintenance works, where possible, would be one way of mitigating SRAS testing costs.

Such testing planning should clearly highlight responsibilities and liabilities should testing run longer than expected or cause financial loss to third parties. On this point, the allocation of risks and liabilities must sit with those best placed to manage them. Consistent with section 116 of the National Energy Law (NEL), this would mean TNSPs should be immune from liability for actions taken to conduct testing. Similarly, outages for testing purposes should be excluded from Service Target Performance Incentive Scheme (STPIS) calculations to preserve consistent treatment with an upstream event.

It is important to note that present processes in Tasmania allocate SRAS testing costs to the SRAS provider. The assumption being that the costs of testing are built into the overall costs of SRAS service provision. Expanding the definition of SRAS services, or changing the allocation of SRAS responsibilities, may therefore impact the efficiency with which SRAS testing costs are apportioned and recovered.

Do stakeholders agree with AEMO's analysis of the issues in relation to the proposed new access standard addressing the capability to provide active and reactive power in system restart conditions? Would the proposed change address the issue raised by AEMO? If not, what alternative solutions are there? Does the proposed change represent an unnecessary barrier to entry, having regard to the costs imposed by the change and the technical capabilities of different technologies? Can stakeholders provide an indication of the costs associated with the proposed change?

As above, consideration of the NEM wide risk appetite and related cost appetite to manage it is required before any definitive answer to these questions can be given. In some cases, it may be that mandating enhanced generation connection standards to include other SRAS capabilities is the best solution to a given restart problem and will not impose unnecessary barriers to entry. In particular, if the proposed generation technology can already provide restoration services at no or minimal additional cost.

In other cases, however, mandating increased generation connection and compliance standards may be a sub-optimal solution. For example, rather than increase costs in general by having all proponents meet a new standard, it may be more cost effective to have one party install and operate a synchronous condenser along a given restart path. This would provide SRAS support under system black conditions but could also provide other network services during system normal conditions.

Do stakeholders agree with the AER's analysis of the issues in relation to the need to clarify the specific roles and responsibilities of NSPs, AEMO and other market participants in relation to SRAS? Would the proposed change address the issue raised by the AER? If not, what alternative solutions are there? Do stakeholders have views on the role and function of LBSPs and whether this is adequately dealt with under the NER?

TasNetworks agrees with the Australian Energy Regulator's (AER's) analysis and conclusions but notes that this is based on only one incident and it is unclear to the extent this would translate to similar problems in other jurisdictions. The proposed changes should provide further clarity but must be mindful of detracting from, or complicating, other elements of the SRAS framework. For example, Local Black System Procedures (LBSPs) which TasNetworks considers are effective in informing AEMO of particular restart requirements in a given jurisdiction.

Do stakeholders agree with the AER's analysis of the issues in relation to the need to clarify the requirements applying to information provision processes and communication protocols in relation to SRAS? Would the proposed change address the issue raised by the AER? If not, what alternative solutions are there? Are enhanced communications protocols and other processes likely to deliver materially enhanced resilience of the power system?

TasNetworks supports clear and effective communication protocols for SRAS processes. Key to this is a robust articulation and understanding of the SRAS communication channels to customers, local and Federal Governments, and media more broadly. Protocols that provide easily understandable information in operational timeframes will have the greatest chance of materially increasing resilience of the power system.