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(Lodged electronically)

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**System Restart Standard Review 2020 (Ref. REL0077)
Consultation Paper 20 August 2020**

Delta Electricity operates the Vales Point power station located at the southern end of Lake Macquarie in NSW. The power station consists of two 660MW conventional coal-fired steam turbo-generators. Delta Electricity appreciates the opportunity to respond to the questions raised in the consultation paper.

Delta Electricity notes that in its executive summary, the Reliability Panel considers that SRAS services can be likened to an “insurance policy” which AEMO procures to minimise the economic disruption arising from black system events. Delta Electricity is concerned that some consequences from extended delays in restarts may not be well understood and therefore not included for in previous economic assessments of the value of unserved energy. Some of these consequences, can in themselves, extend a singularly caused system black event into a much longer event.

For example, a recent event at Vales Point power station reminded Delta Electricity of one potential delay that could result if essential restart sources are delayed in reaching a power station. The potential delay in being able to return Units 5 and 6 to service after a dual unit shutdown involving loss of external power sources relates to subsequent consequential heat and heat mismatch between fluids and containers when pumping systems cannot be operated whilst heat is retained. When restart power is eventually available, make-up fluids, if required to be provided to vessels from cooler sources, cannot simply be added to systems where they could impact on far hotter containing components (e.g. metallic containers). In such conditions, the temperatures must simply dissipate until the mismatch is less extreme and manageable so that permanent damage does not result. Delays to restarts in the order of days may result if restart sources are delayed reaching a power station. Such risks, carrying with them consequential additional delays and extensions of system restart times, should be considered in the valuation of unserved energy. Hence, Delta Electricity likens SRAS more to a safety net rather than simply insurance and any SRAS inadequacy may extend the initial black system event into a very much longer event. The safety net must be valued to provide adequate compensation to all restart elements that **must not** fail to deliver or, if they fail, a replacement has been secured as insurance preventing the overall failure of the restart.

Confidential information has been omitted for the purposes of section 24 of the Australian Energy Market Commission Establishment Act 2004 (SA) and sections 31 and 48 of the National Electricity Law.

Vales Point power station maintains a readiness for black systems in accordance with the Rules, AEMO-approved Local Black System Procedures and internal Delta Electricity procedures.



The value of unserved energy, which underpins the financial worth of System Restart services, may already be hinging on expectations, other than the specific availability and capability of the restart source itself, to be realised. Transmission pathways from the SRAS provider to others in the Network, the voltage, frequency and reactive power support services needed to secure the black system service and ensure steady delivery, and the successful restart of the first generators, may all need to be considered in the compensation presently allocated exclusively to SRAS energy sources. Restoration support services and third party assets, if incorporated into SRAS as described by the new Rules and draft AEMO Guidelines, appear to have been considered in recent reforms but it is not clear that the compensation for such services will be representative of the value they represent to the restart.

Delta Electricity is also concerned that AEMO may be considering that the new Rules provide it with the authority to obtain some levels of uncompensated participation from unwilling third parties in system restart testing that utilises an SRAS provider's compensated service and tests its capability to effectively restart a region. In its present draft guidelines, AEMO refers to Testing Participants but compensation for their participation falls back on wording of the new Rule 4.3.6 and there is no assignment of value to the readiness of units for such dispatch. Compensation for Testing participants in a system restart test ought to include both the expenses incurred in testing, the preparation and readiness for delivery and also the revenue and risk impacts of additional downtime of a generating unit over and above its present outage plans. Additional outages, if required to prepare for and participate in a system restart test, directly impact the revenue of the plant and also increase the risk of causing an unplanned outage should the testing result in damage or the preparation for it promote increased incidence of defects that arise from more frequent interruptions such as boiler tube leaks. Successful delivery by AEMO of restarts that meet the system restart standard may well equally depend on the successful restart of the initial generator to be started from the SRAS service. Generators essential to the success of the restart therefore need to be considered in the compensation stream arranged for SRAS. Otherwise, SRAS objectives may have a weak link due to lack of adequate assignment of value to the successful restart of the first power station unit from the SRAS. Any weak links in effective SRAS delivery will undermine the standard and put the NEM at risks of experiencing restart periods extending to several days in length, due to conditions as occurred recently at Vales Point, or additional black system events in close succession.

The Reliability Panel may see fit to reexamine in more detail all facets of a system restart essential for the restart standard to be met, including the successful restart of the first dispatchable generating unit, and determine the relative importance, probability and risk of failure of each facet so that the value of unserved energy can be allocated between them on the basis of risk and the consequence of failure.

The following pages provide a table of comments to the Reliability Panel's specific questions included in the consultation paper.

If the AEMC wishes to discuss this submission please contact Simon Bolt on (02) 4352 6315 or simon.bolt@de.com.au.

Yours sincerely

Simon Bolt
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ATTACHMENT – RELIABILITY PANEL’S TOPICS OF INTEREST

| | Reliability Panel Question | Delta Electricity Comments |
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| QUESTION 1: ASSESSMENT FRAMEWORK | | |
| (a) | Do stakeholders agree with the Panel’s assessment framework? | The framework seems appropriate. |
| (b) | Are there other relevant factors the Panel should consider when undertaking the review? | <p>The Reliability Panel is encouraged to consider the following quantitative and qualitative suggestions:</p> <ul style="list-style-type: none"> • Number of parties involved in an effective restart that will be depended on to deliver the Standard: <ul style="list-style-type: none"> ○ Categories: <ul style="list-style-type: none"> ▪ Traditional and reformed SRAS: <ul style="list-style-type: none"> • black start service, • transmission system pathway, • third party assets, • restoration support service and ▪ first dispatched generating unit. ○ Development of risk profiles of each party. ○ Apportioning the total value of unserved energy to each party according to the risk profile. • Consequential impacts from delays to the restart: <ul style="list-style-type: none"> ○ Considers delays that could result from both the failure of procured AEMO SRAS OR failure of any other party essential to the success of the restart ○ Delays could compound and extend the duration of the black system event or create additional events. |

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| | | <ul style="list-style-type: none"> • Setting qualitative standards that ensure the standard can be met even catering for the failure of any party involved in the restart. <ul style="list-style-type: none"> ○ It is reasonable when considering unlikely scenarios, and the impacts of black systems on society and resourcing logistics, to expect some failure in the delivery of any one of the SRAS services in a region as did occur in the events in SA in 2016. ○ If the SRAS compensation (or other compensation) is not catering for an element essential to the success of a restart, such as the preparedness for restart from SRAS of the first dispatched generator, it is more likely that failures will occur in this element. Assigning value to such failures and adequately compensating the relevant generator for its preparedness is likely to improve AEMOs conformance with the standard. <p>Delta Electricity encourages the Reliability Panel to develop standards that encourage least complex SRAS generation, transmission, third party and first dispatched generator solutions whilst also avoiding inexpensive single source solutions that do not result in adequate compensation on all elements depended on for performance to standard. If third parties are to be depended upon, they need to be adequately compensated for any obligatory activity the SRAS provision in support of the Standard, will demand. If the successful restart of the first dispatched unit is also essential to the standard being met, it too needs to be adequately compensated for its readiness to restart.</p> |

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| | | <p>Delta Electricity considers the black system scenario is an extreme case with low probability likelihood. However, once an event initiates, decisions that minimise SRAS costs in preparation for an event will be proven impotent if they result in insufficient or ineffective SRAS delivery or the laws of probability conspire to make a single or dual source ineffective despite compliant testing regimes. In short, it may be a more effective SRAS strategy to procure more than what is economically considered necessary to cater for contingent failures possible if fewer sources are procured.</p> <p>There will also be technical and logistical scenarios that arise to influence black system events despite the best preparedness. Testing of SRAS that depends on or requires participants that are inadequately compensated adds complexity and increases possibilities of an SRAS service not delivering even if testing conditions are expanded to assign obligations on non-SRAS-contracted parties.</p> |
| <p>QUESTION 2: CHANGES TO ACCOUNT FOR THE SRAS RULE</p> | | |
| (a) | <p>Do stakeholders agree with the Panel’s proposed approach to amending qualitative guidance in the Standard to remove possible barriers to AEMO’s procurement of restoration support services and SRAS from non-traditional providers of black start capability?</p> | <p>Delta Electricity considers the transition of the NEM towards non-traditional sources of electricity makes this amendment an essential and urgent consideration.</p> |

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| (b) | Are stakeholders aware of any specific elements of the Standard that require amendment to facilitate this? | Of the existing standard, no. However, as mentioned above in answering 1(b), some other factors are suggested to be considered as additional quantitative and qualitative aspects. |
| (c) | Do stakeholders have views on the changes considered and made in the SRAS rule and how this affects this review? | <p>Delta Electricity understands that restoration support services and arrangements with NSPs and others have now been incorporated into the SRAS Rules and draft AEMO guidelines. It is not clear, however, that valuation of each element will be assigned according to risk and consequence of failure to deliver.</p> <p>Delta Electricity also considers that generating units expected to be restarted by an SRAS may be essential to AEMO meeting the System Restart Standard. The new Rules and draft AEMO guidelines may not have effectively considered this possibility. The new Rules suggest certain Generators may called upon to participate in a system restart test should AEMO see fit to perform one. However, compensation for participation in such a test will not include for expenses and planning that ensures a Generator’s readiness for the restart nor compensate the Generator for impacts on revenue and risk in the participation. This omission could place the restart standard in jeopardy in a real event.</p> <p>It is noted that procurement process for SRAS may not be the focus of the review of the standard and will be AEMOs obligation to arrange but, if possible, the standard should further encourage effective coordinated services and further discourage disjointed uncoordinated services because the latter increases the risk that the standard will not be met. Any weak link in the</p> |

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| | | elements that will secure the restart, including the first generators to be restarted, will undermine the standard. |
| QUESTION 3: METHOD OF DETERMINING STANDARD SETTINGS FOR A COMBINED QUEENSLAND SUB-NETWORK | | |
| (a) | Do stakeholders have views on the Panel’s proposal to apply the approach used in its 2016 review of the Standard to determine quantitative Standard settings for a combined Queensland sub-network? | Delta Electricity recommends the 2016 economic assessments also be updated to include for the risks of extended delays caused by inadequate restart services e.g. uncoordinated parties of an SRAS or unanticipated technical impediments, that can arise in traditional generation systems if the restoration times determined by the Standard are not met. Extended delays or additional black system events can compound the overall duration because they can extend the downtime of previously in-service units. |
| (b) | Are stakeholders aware of any other approaches that may be considered by the Panel to determine Standard settings for a combined Queensland sub-network that would also satisfy the SRAS Objective? | Delta Electricity makes no comment on this question. |
| QUESTION 4: APPROACH TO VALUING UNSERVED ENERGY | | |
| | How do stakeholders consider the WALDO VCR estimates may be used in this review to establish quantitative settings for a combined Queensland sub-network? | Delta Electricity makes no comment on this question. |

| | Reliability Panel Question | Delta Electricity Comments |
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| <p>QUESTION 5: ADDITIONAL REQUIREMENTS FOR LOCATIONAL VARIATION IN A QUEENSLAND SUB-NETWORK</p> | | |
| (a) | <p>Is the existing qualitative guidance in the Standard sufficient to address geographic issues specific to a combined Queensland sub-network?</p> | <p>Delta Electricity makes no comment on this question.</p> |
| (b) | <p>Do stakeholders consider it necessary to include an explicit locational requirement in the Standard relating to the procurement of SRAS in a combined Queensland sub-network? If so, do stakeholders have views on the specific settings that should apply to this requirement (e.g. location, level and aggregate reliability)?</p> | <p>Delta Electricity makes no comment on this question.</p> |