

30 May 2022

Craig Price  
 Group Manager – National Planning  
 Australian Energy Market Operator  
 Level 22, 530 Collins Street  
 Melbourne VIC 3000

Dear Craig

**AMENDMENTS TO SYSTEM STRENGTH REQUIREMENTS METHODOLOGY, SYSTEM STRENGTH IMPACT ASSESSMENT GUIDELINES AND POWER SYSTEM STABILITY GUIDELINES**

I am writing to you in relation to AEMO’s proposal to amend the current System Strength Requirements Methodology (SSRM), System Strength Impact Assessment Guidelines (SSIAG) and the Power System Stability Guidelines (PSSG). As explained below, Marinus Link Pty Ltd (**MLPL**) welcomes AEMO’s initiative in relation receiving submissions to the issue paper, which will facilitate the drafting of the updated SSRM, SSIAG and PSSG.

As you are aware, Project Marinus is an important project for the National Electricity Market (NEM), having been recently classified as a single-stage actionable Integrated System Plan (ISP) project without any decision rules in AEMO’s draft 2022 ISP, with the project contributing \$4.6 of the \$26 billion (in Net Present Value) delivered in the draft Optimal Development Pathway in the most likely scenario. The project has also completed the Regulatory Investment Test for transmission (RIT-T).

As Marinus Link will be a regulated TNSP but not a System Strength Service Provider (SSSP) in either connecting region, we have only answered selected consultation questions that we believe we can provide constructive input to.

Consultation Questions		Response
1	Do stakeholders have alternative suggestions for the approach to determining minimum fault level requirements?	Using the existing minimum levels defined at the current nodes is a prudent approach however it should be limited to nodes where the level was defined using a “Stage 2” approach in the existing guidelines. Those that are defined with the “Stage 1” approach risk setting the minimum levels too high and mean that the level will be required to be maintained by the SSSP.
3	In the context of clause S5.1a.9 of the Amending Rule, what are stakeholders’ views on the inclusion or exclusion of existing and forecast IBR in the assumptions for determining minimum fault level requirements?	We agree with the position AEMO has put forward in regards to the treatment of existing IBR being captured under the minimum levels and new and modified generators, MNSPs and large loads that are IBR will be captured under the efficient level of system strength. One clarification we feel is needed is whether new regulated assets which happen to be IBR will be accounted for under the minimum levels in the planning timeframe.

14	What do stakeholders consider to be the pros and cons of the three proposed options for assessing future voltage waveform stability? Should any other options be considered? If so, what options?	Of the three options, Option 2, the calculation of Available Fault Level is the most appropriate for forecasting system strength. The use of generic EMT models will be highly sensitive to the parameters chosen and will not represent the actual instabilities that may be present in the future IBR, and instead may present as a different limitation that will not manifest when actual manufacturer models are tuned to the specific conditions. The third option, using the sensitivity coefficients would require an understanding of what values should be set as the threshold and it is not clear at present whether system strength issues will manifest in this way.
15	Given the multitude of possible approaches, does AEMO have a role in providing guidance through the SSRM to encourage consistency between SSSPs where appropriate?	It would be beneficial for the SSRM to indicate a preferred assessment process that the SSSPs should apply to prevent perverse outcomes at nearby nodes that are across regional boundaries.
23	Is including only committed and anticipated network augmentation projects suitable for forecasting system strength requirements?	Given the impact that network augmentations can have on the system strength requirements and the far reaching 10-year timeframe of the forecast, we feel that actionable network augmentations should also be considered in the outlook.
42	Are there any other issues relevant to the calculation of AFL that AEMO ought to take into account?	The AFL definition proposed in the paper only takes into account the impact of a single IBR when in fact it should be the sum of the impacts of all nearby IBR subtracted from the $S_{SG}$ . Further definition of the scaling or reduction coefficient $\alpha$ is needed to understand the intent of such a factor.  The proposed methodology reduces the impact of all IBR to a single bus which is appropriate for the purpose of demonstrating the concept of AFL however for it to be used in the wider network, the methodology in the current SSIAG and in section 3.3.2 of this consultation with minor adjustments to take grid forming converters into account would be more appropriate.

If you would like to discuss this submission in further detail, please do not hesitate to contact Luke Roberts via email to [Luke.Roberts@marinuslink.com.au](mailto:Luke.Roberts@marinuslink.com.au).

Yours sincerely



**Stephen Clark**