Thursday, 20 August 2026

Australian Energy Market Commission
Level 15, 60 Castlereagh Street
Sydney NSW 2000

Attention: Mr Ben Hiron

CEC submission to AEMC's consultation paper on minimum system load

Summary

The Clean Energy Council (CEC) is the peak body for the clean energy industry in Australia, representing approximately 900 leading businesses across renewable energy, and energy storage. We are committed to accelerating Australia's transition to a clean energy future as rapidly as possible while maintaining a secure and reliable electricity supply for customers.

The CEC welcomes the opportunity to provide feedback to the AEMC on its consultation paper relating to the proposed introduction of minimum system load (MSL) governance and market arrangements.

MSL management is among one of the most consequential near-term policy issues for utility-scale energy storage investment in Australia. The current reliance on directions and bilateral transitional service contracts to manage MSL conditions has created and continues to create material uncertainty for CEC BESS developers and operators — both in terms of revenue predictability and operational risk. The CEC's main points outlined in this submission:

- support the development of a market-based framework for the management of MSL periods as opposed to the current central planner style approach to MSL management
- does not support the proposal that the NER requires that the energy price be set at the market floor price during MSL3 conditions and we consider this will introduce unintended market consequences and is unlikely to increase consumer consumption of active energy at the time of most need
- reiterate our support for the establishment of a MSL reserves ancillary services market as in the long term we consider this will best support the most efficient and lowest cost framework for the management of MSL periods.

These points are further discussed below.

Phone: +61 3 9929 4100
Fax: +61 3 9929 4101
info@cleanenergycouncil.org.au

Level 20, 180 Lonsdale Street, Melbourne, VIC 3000, Australia

cleanenergycouncil.org.au

ABN: 84 127 102 443

MSL as an issue is likely to endure

The CEC does not completely agree with the AEMC's characterisation of MSL as being highly uncertain and likely to evolve.[1] We agree with statements in the consultation paper indicating projections in the 2026 integrated system plan that show there is expected to be continued growth in rooftop PV. Furthermore, the recent announcements by the Federal Government to extend application of the small-scale renewable energy scheme (SRES) to include commercial and industrial customer PV installations up to 1 MW is expected to further increase the amount of rooftop PV on the system.[2] That is, the amount of solar energy on the system during the middle of the day is likely to increase significantly more than currently forecast and continue to exacerbate the MSL problem over the short- to medium-term.

Furthermore, while AEMO have undertaken an assessment of MSL in the 2025 Transition Plan for System Security (TPSS), we note that this assessment is based on forecasts of operational demand which were prepared prior to the announcement of the Cheaper Homes Batteries Program as well as prior to the start of the Middle East area conflict. Both developments have resulted in an increase in the installation of distributed battery energy storage systems and the purchase of additional battery electric vehicles which will both have a not insignificant impact on future MSL outcomes in the NEM.

The CEC notes AEMO's current assessment of operational demand, the most notable input into the MSL assessment calculation in the 2025 TPSS, excludes storage load consumption by large capacity grid connected battery and pumped hydro energy storage systems which are registered as scheduled load in the NEM. In our opinion, the combined potential grid consumption load of these currently connected scheduled load resources exceeds 10,000 MW and has the potential to grow to over 20,000 MW by the end of 2030.

That is, while the exclusion of scheduled loads from the regional and NEM-wide load forecasts was reasonable historically when capacity was small, we consider this to no longer be the case and note commentary from AEMO that improved consideration of the significant magnitude of this energy consumption is warranted in future TPSS assessments.[3] The CEC considers that more granular scenario modelling and data transparency from AEMO is needed to close these information gaps.

In addition, as noted by the AEMC, the CEC recognises concern around the future development of new large load and the potential for the level of energy capacity flow by data centres to add uncertainty around the ultimate levels of MSL in the NEM. It is against this backdrop that the potential for actual MSL events is highly uncertain with the future range difficult to predict with certainty. Notwithstanding, we consider that MSL management will be an enduring, as opposed to a short term, requirement in the NEM and a formal framework that allows the market to efficiently manage a MSL event, should this arise, is warranted.

CEC members therefore contend that the high level of uncertainty in this area supports an MSL management framework that is flexible rather than less flexible or rigid and that aligns with the market design principles as set out in clause 3.1.4 of the National Electricity Rules (the NER). Currently such a framework including a transparent price signal does not exist and AEMO's current MSL management and transitional services contracting processes, in our opinion fail to meet the threshold of reasonable and workable expectation for market-

[1] AEMC | Minimum system load governance and market arrangements - consultation paper, July 2026, p. iii.
[2] Ministerial Announcements | Hon Chris Bowen Minister for Climate Change and Energy - Putting more roofs to work, 5 August 2026.
[3] AEMO 2025 | TPSS Appendix A3 - MSL Regional Assessment, pages 4, 5, 6 and 7.

based responses ultimately leading to the need for ongoing out of market contracting and market intervention by AEMO resulting in higher costs to consumers.

MSL governance framework under the NER

NER-based definition and governance

The CEC agrees with the Reliability Panel's assessment that a gap exists in the NER around the definition of MSL events and the related governance arrangements. Furthermore, the fact that AEMO have in the absence of an explicit MSL framework in the NER, developed its own MSL framework, to monitor and manage these conditions, in our opinion reinforces that MSL is an enduring concern for the operation of the power system.

The CEC considers a framework modelled on the existing lack-of-reserve (LOR) framework as set out in clauses 4.8.4, 4.8.4A and 4.8.4B, where AEMO applies a three-tier system of classification and notification (MSL1, MSL2 and MSL3) is an appropriate starting point.

Some CEC members noted the inclusion of an MSL framework under the NER would also provide the AEMC with an opportunity to correct deficiencies that have been identified in the reporting obligations set out in clause 4.8.4B that in their opinion should not be repeated as part of this rule change process.[4]

Potential elements of an MSL governance framework

The CEC supports amending the NER to include defined terms for minimum system load, scheduled generator output shedding and unscheduled generation output shedding. There was less certainty around the requirement under the NER for the term lack of load reserve or similar as suggested by the AEMC in their consultation paper.

Following consultation with members, the CEC considers the AEMC contemplate the subsequent elements as part of the potential changes to the NER.

- Any wording in the NER must be clear and unambiguous and ensure any discretion or rule interpretation by AEMO is strictly limited. If approved, this rule change must set a requirement for AEMO to undertake genuine consultation to the reserve level declaration guidelines (RLDG) by a specified date and require regular review and consultation on all components of the RLDG on at least a four yearly basis.
- Any definitions applying to the various MSL levels under the NER must include if these are to be applied based on transparent credible contingency events and how both the value and the basis for these events are to be determined and communicated to the Market. We suggest that the power system must remain in a satisfactory operating state, with a return to a secure operating state within 30 minutes post the determined credible contingency event as this would align with other provisions in the NER.
- In considering any requirements for scheduled generator output shedding and/or unscheduled generation output shedding, the CEC recommend AEMC determine if this

[4] Members cited AEMC | Enhancing reserve information - final determination - March 2024, p. ii-iv, and section 1.5.3 where the AEMC declined to amend the rule to introduce additional reporting requirements and recommended that AEMO engage with participants and other stakeholders to improve their reports. Members noted to date all requests to undertake a review regarding these reports have been ignored or rebuffed by AEMO indicating it's not a rules obligation.

could be applied by both or either an automated process or manual process post a contingency event.

- CEC members supported the inclusion of forecasting potential MSL periods in both the pre-dispatch and ST PASA timeframes as soon as practicable. However, members considered the NER framework needed to include a requirement for AEMO to include forecasts of scheduled load consumption in these forecasting periods. This is primarily because demand forecasts are a critical component of forecasting future MSL events and as noted above, the exclusion of scheduled loads from MSL forecasts is resulting in unnecessary MSL declarations resulting in additional costs to consumers.
- CEC supports the inclusion of reporting requirements for declared MSL events under rule 4.8 of the NER. Members noted that under the existing reporting framework, the declaration of LOR's, including actual LOR's is based only on AEMO's forecasts, similarly under the proposal in the consultation paper, AEMO MSL declarations are likely to be based only on AEMO forecasts. To provide better information to market participants, we consider more post event real time outcomes analysis would be advantageous. For MSL events, this could include the market demand inclusive of the scheduled load consumption (that is, in the event of a direction the operational demand in addition to the energy storage system consumption).
- Transparency on the costs associated with directions and transitional service activations during MSL events, including disaggregation by technology type and region. In addition, members sought more reporting on the efficacy of transitional services — including how AEMO is evolving the procurement approach, service specifications, enablement requirements, service valuation methodology, and the volume of capacity procured.

Proposed price signal when MSL triggered

The CEC understands the intent of the proposal outlined in the Reliability Panel's rule change request to set the wholesale market price to -$1,000 – the market floor price – would encourage any generation on the system able to curtail a price signal to do so. This price signal is also essentially equal and opposite to that of the market price cap when LOR3 is declared and load shedding is occurring in the NEM.

Notwithstanding, the CEC expects that in the lead up to any MSL3 declaration that wholesale market prices are already likely to be below zero and any renewable energy generation on the system is likely to have voluntarily curtailed its generation to avoid being charged to generate. As such, the market floor price is likely to only apply to thermal generation on the system.

The CEC would encourage the AEMC to undertake modelling of different price points to be certain that forcing the wholesale market price to the floor does not have any unintended consequences. For example, could there be unintended consequences on thermal generation changing behaviour that impacts the availability of essential system services on the network that may result in AEMO needing to direct thermal generation to stay on the system. This would appear to be contrary to the intent of the rule change request.

Market-based mechanism to support and manage MSL conditions

The CEC maintains that the current market arrangements do not support the efficient provision of load reserves to mitigate future MSL risks. We consider the outcome of this

deficiency in the current market arrangements has already and will continue to result in increased use of market intervention and/or 4.8.9 directions by AEMO, or alternatively over contracting of transitional services contracts. In our view, ongoing reliance on the use of directions and/or transitional services contracts will result in materially inefficient market outcomes and additional costs to consumers.

Despite commentary from the AEMC indicating the transitional services contracts are 'transitional' and subject to a review in 2029-2032, the CEC remains concerned that in the absence of anything better these contractual arrangements will be extended to provide comfort to AEMO.

Like the discussion above on transitional services contracts, CEC members are not supportive of further consideration by the AEMC on whether the wholesale demand response (WDRM) and/or a reliability and emergency reserve trader (RERT) style contracting arrangements could be augmented or adapted to provide an MSL load-increase service. This is primarily because the arrangements and pricing of these contracts sit outside the market, and there remains a risk of over procurement of services resulting in additional costs to consumers.

It is against this background that we consider our proposed rule change provides both the operational framework and incentives to provide the required response at the specific time to match the power system need.

The CEC consider that the costs to implement a new MSL reserves ancillary services market would be low and akin to the cost of the recent implementation of the very fast contingency frequency control ancillary services (FCAS) markets. The proposed market would be technology neutral and would provide transparent pricing signals and as such has the potential to encourage the entry of new service providers to provide the required service response. Current frameworks provide at best limited, if any, transparency or incentives for new service providers to provide MSL management services.

The proposed framework will not only indicate that MSL reserves are required in the pre-dispatch period but will also transparently indicate both the magnitude and duration of the service requirement. This is akin to how AEMO currently provides pre-dispatch forecasts in the energy and FCAS markets. While the AEMC has suggested the proposed ancillary services market could require a degree of "aheadness" or forward period dispatch of the service, we are not clear that this would be required. AEMO would provide pre-dispatch signals of services requirement in the same way as it does for energy and FCAS.

Service providers would consider this requirement and determine offers for the provision of the service as forecast by AEMO potentially in conjunction with offers for energy and FCAS. This is no different to how providers of energy and FCAS currently review pre-dispatch information and determine offers for the provision of these services. AEMO would monitor offers for service provision in the same way as it currently monitors offers for the provision of energy and FCAS and would issue market notices where a potential shortfall in service requirements is identified. In considering the issue of MSL reserves deficit market notices, AEMO would be required to consider offers for the provision of MSL reserves.

It is our view that this proposed market would provide AEMO with increased certainty around not just the magnitude but also the availability across trading intervals of MSL reserves that can be dispatched to increase regional system demand as required to support power system security.

The CEC welcomes further engagement with the AEMC as it progresses further in the consideration of the MSL framework and market construct that should operate in the NEM going forward.

Further queries can be directed to James Eastcott at jeastcott@cleanenergycouncil.org.au.

Kind regards

Martin Kennedy

General Manager – Market, Operations and Grid