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Australian Energy Market Commission

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Minimum system load governance and market arrangements – Consultation Paper

Origin Energy Limited (Origin) welcomes the opportunity to provide comments on the Australian Energy Market Commission's (AEMC) *Minimum system load governance and market arrangements* Consultation Paper.

Appropriate management of minimum system load (MSL) conditions is important to ensure grid demand does not fall below the levels required for safe and secure system operation. In this context, Origin agrees there is a need to improve MSL governance and reporting arrangements to help make the Australian Energy Market Operator's (AEMO) response to MSL conditions more transparent and predictable.

However, we do not support the proposal to establish a MSL spot price override mechanism or new MSL reserve market. This is given there is significant uncertainty around the outlook for MSL conditions, and there would be additional cost / complexity associated with these measures that is likely to exceed any potential benefits.

In addition to improving governance arrangements, a more proportionate approach would be for the AEMC and AEMO to explore how the existing transitional non-market ancillary service (NMAS) contracting framework could be better designed / utilised to reduce any reliance on directions. This should be coupled with ensuring PV backstop mechanisms can be effectively activated when needed, noting this would be the most targeted tool available to AEMO to address severe MSL conditions.

More detailed comments on the rule change proposals are provided below.

1. MSL governance and reporting arrangements should be improved

Origin supports the proposal to establish a formal MSL framework in the National Electricity Rules (NER) as this should promote consistency and clarity around AEMO's declaration, management and reporting of MSL conditions. AEMO's current MSL protocol, which has evolved over the past few years, could form the basis of this framework.

We also consider there is merit in establishing a clear definition for "MSL condition" and requiring AEMO to consult on and publish new "MSL Declaration Guidelines" that set out how MSL thresholds are determined. This would help improve participants' understanding of low demand conditions and any potential AEMO response. Formalising AEMO's existing quarterly reporting on MSL conditions via a NER obligation would also standardise the information provided to the market.

2. The cost and complexity of the proposed solutions would likely outweigh any benefits

In assessing the need for any additional mechanisms, the outlook for MSL conditions should first be considered, noting this is highly uncertain due to several market and regulatory changes:

- While AEMO forecasts continued growth in rooftop PV (reaching 38 GW by 2030), there could be considerable increases in grid demand with the development of new large loads (particularly data

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centres) and battery assets (both behind the meter and utility-scale). AEMO projects data centres' share of underlying demand in the NEM will grow by around 25 per cent annually; and that over 30 GW of utility-scale batteries and over 15 GW of behind the meter batteries will be needed by 2030 (up from current levels of 6.5 GW and 4 GW, respectively).[1]

- The new regulated Solar Sharer Offer encourages daytime load-shifting while the Integrating Price Responsive Resources Reform and the Market Visibility Framework are being developed by AEMO to facilitate the participation of consumer energy resources in NEM dispatch processes.[2] Whether these new arrangements have a material impact on grid demand will depend on the level of customer uptake.

The uncertainty associated with these changes is reflected in AEMO's MSL projections. Over the period to 2031, the forecast number of days with severe MSL conditions ranges from zero days per year in each NEM region, to as many as two days in New South Wales, 53 in Victoria, 33 in Queensland and 135 in South Australia.[3] These projections will be further refined, with battery scheduling patterns (and their resulting effects on MSL incidences) still to be integrated into AEMO modelling.[4]

The broad range of potential MSL outcomes suggests there may be limited utility in introducing new mechanisms such as a MSL spot price override trigger or MSL reserve market, particularly considering the potential costs / risks associated with those proposals, as discussed below.

MSL spot price override

The proposal to automatically set spot prices to the market floor price (MFP) at times of severe MSL conditions is predicated on sharpening price signals during oversupply to encourage generators to withdraw and storage assets to charge. However:

- Even with the increased integration of clean energy resources and continued uptake of home batteries, there will likely remain a quantum of passive distributed rooftop PV that is unresponsive to wholesale prices.[5] As a result, setting the spot price to the MFP may only have a limited impact on a key driver of MSL conditions.

- Spot market prices already send strong investment and operational signals. Almost 5 GW of utility scale batteries were added to the grid during FY26 and utility scale batteries represent 53 per cent of AEMO's connection pipeline.[6] In operational timeframes, spot prices strongly incentivise batteries to charge. AEMO recently reported that daytime charging, when output from distributed PV is high and spot prices tend to be lower, rose by 211 per cent in Q2 2026, relative to a year earlier.[7] Relatedly, the Australian Energy Regulator (AER) found that in 2025 over 80 per cent of all battery charge offers were below $0/MWh, which strongly implies that that batteries would already be charging during MSL periods (as prices would likely be negative).[8]

This spot price override proposal would also increase the financial risks faced by large thermal generators that must continue to operate during MSL conditions, by exposing them to stronger negative prices. Not only would this strain the profitability / economics of critical plant, but it could also increase

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[1] AEMO, *2026 Integrated System Plan*, p. 13 and AEMO, 2026, *ESOO Result Workbook*, "Development Outlooks" spreadsheet.
[2] AER, *Solar Sharer Offer Factsheet – May 2026*, p. 1; AEMC, 2024, *Integrating Price Responsive Resources Final Determination*, p. 18; AEMO, 2026, *Market visibility framework for price responsive resources Approach Paper*, p. 5;
[3] AEMO, *Appendix to the 2025 Transition Plan for System Security for the National Electricity Market - A3 MSL Regional Assessments*, p. 2
[4] Ibid, p. 2.
[5] AEMC, 2026, *Minimum system load governance and market arrangements, Consultation Paper*, p. 43.
[6] AEMO, 2026, *ESOO Result Workbook*, "Development Outlooks" spreadsheet and AEMO, *FY2026 Connection Scorecard*, p, 1
[7] AEMO, *Quarterly Energy Dynamics – Q2 2026*, p. 36
[8] AER, 2026, *Wholesale electricity market performance report*, p. 112.

system management / direction-related compensation costs. Over the past two financial years (FY25 and FY26) the combined costs associated with system security directions and Network Support and Ancillary Service (NSCAS) contracts have exceeded $160 million and the proposed MFP spot price override would put further upward pressure on this figure.[9]

While the Consultation Paper outlines potential commercial and operational levers available to thermal generators to manage the above risk, these are unlikely to viable in practice:

- Although there are over-the-counter price floor contracts, these are relatively illiquid and not traded in the volumes required to mitigate the exposure of a large thermal generator to negative pricing.

- Under current arrangements, thermal generators are already strongly incentivised to reduce their minimum stable operating levels and several participants have made significant investments to modify plant operations.[10] Further material reductions in the minimum stable operating levels of ageing plant may not be technically feasible.

MSL reserve market proposal

The spot market already sends clear price signals on the value of generation / load over different horizons (as noted above), so it is not apparent that a separate reserve market would induce any meaningful additional charging response.

Given the uncertainty surrounding the future prevalence of MSL conditions, establishing a new MSL ancillary service market would likely introduce significant complexity and cost to address what may be a transitional issue, similar to the concerns that led the AEMC not to progress the Operating Reserve Market proposal in 2024.[11] One example of this complexity is participants would be limited in their ability to co-optimise the provision of the MSL reserve services with energy and FCAS, given the MSL service would likely need to be enabled several hours ahead of a forecast MSL condition (e.g. a battery would need to maintain headroom in anticipation of a potential MSL event).

3. A more targeted approach should be explored

Building on improved governance arrangements, the AEMC should consider whether the existing transitional NMAS contracting framework could be improved to better support AEMO's management of MSL conditions. In 2025, two contracts with utility-scale batteries were executed in Victoria to help manage MSL events, however the negotiations AEMO undertook with battery owners in South Australia were ultimately unsuccessful with no suitable MSL charging agreements reached.[12] The AEMC should work with AEMO to determine whether any lessons can be learned from this recent procurement process; and refine the framework to facilitate greater participation where appropriate.

It is also important to ensure the PV backstop mechanism can be efficiently operationalized by AEMO when needed. As noted by the AEMC, there is no explicit NER obligation on Distribution Network Service Providers (DNSPs) in relation to backstop mechanisms, and there are material differences in performance and metrics between regions.[13] Origin considers there may be merit to the backstop

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[9] AEMO, *Quarterly Energy Dynamics – Q2 2026*, p. 48
[10] Australian Financial Review, 2024, *Origin reworks coal power stalwart for final years*, accessed: https://www.afr.com/companies/energy/origin-reworks-coal-power-stalwart-for-final-years-20240904-p5k7uh
[11] AEMC, 2024, *Enhancing Reserve Information, Final Determination*, p. 16.
[12] AEMO, 2025, *Progressing transitional system security services,* accessed: https://www.aemo.com.au/newsroom/news-updates/aemo-progressing-transitional-system-security-services
[13] AEMC, 2026, *Minimum system load governance and market arrangements, Consultation Paper*, p. 6.

enhancements proposed by the Commonwealth Government which will introduce national standards / measures that could improve the consistency of backstop response.[14]

If you wish to discuss any aspect of this submission further, please contact Thomas Lozanov at thomas.lozanov@originenergy.com.au.

Yours Sincerely,

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[14] Consumer Energy Resources Taskforce, *Appendices for Redefining roles and responsibilities for power system and market operations in a high CER future*, p. 55