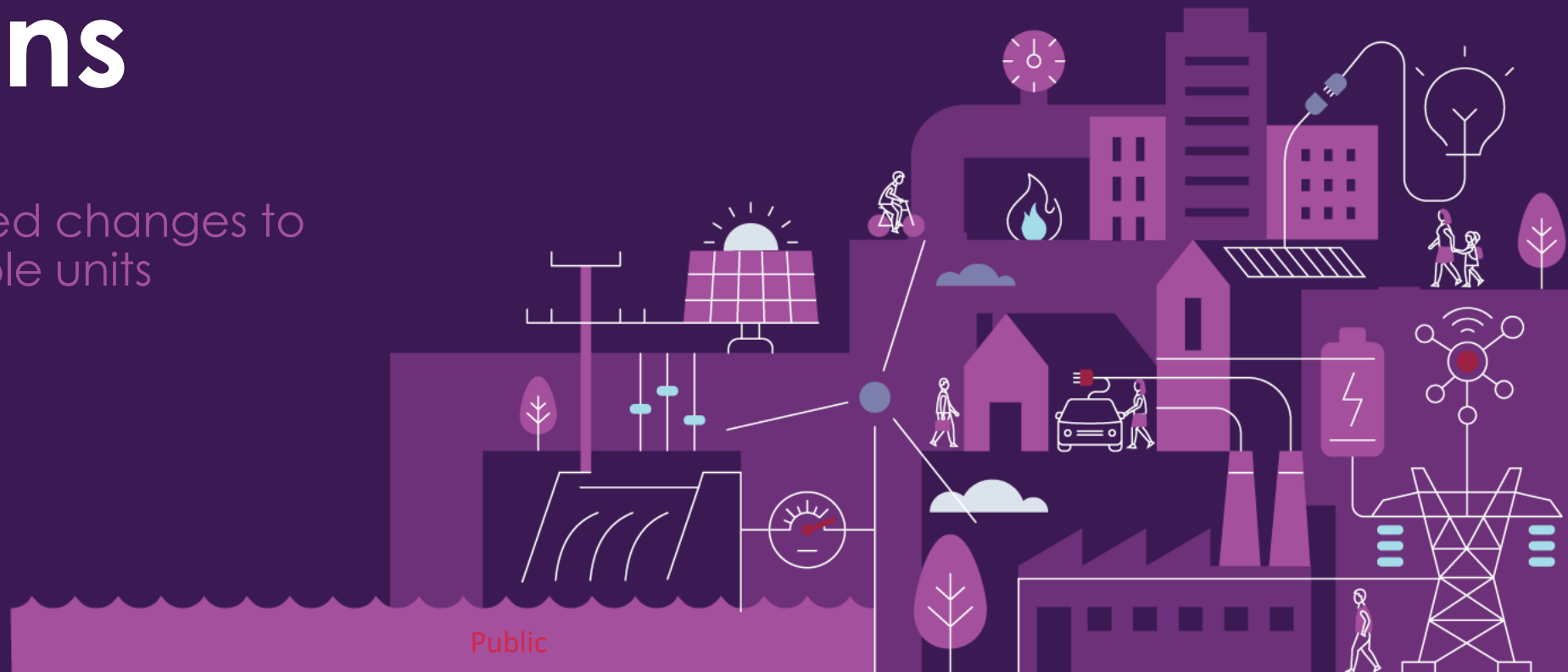


MSL procedures and directions

Overview of proposed changes to procedures – Inflexible units

July 2026





Public

We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.

We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.

'Journey of unity: AEMO's Reconciliation Path' by Lani Balzan

AEMO is proud to have delivered its first Reconciliation Action Plan in May 2024. 'Journey of unity: AEMO's Reconciliation Path' was created by Wiradjuri artist Lani Balzan to visually narrate our ongoing journey towards reconciliation - a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.



Read our
RAP

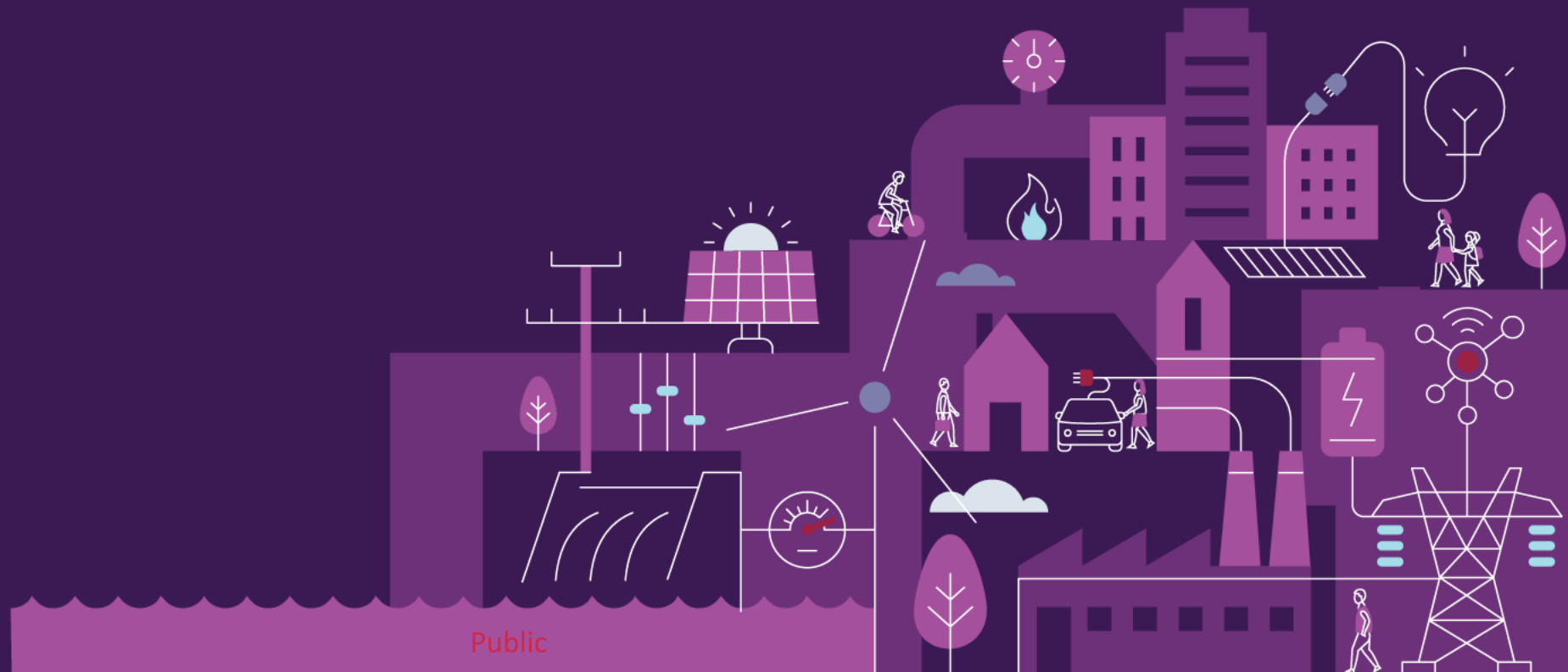


Public

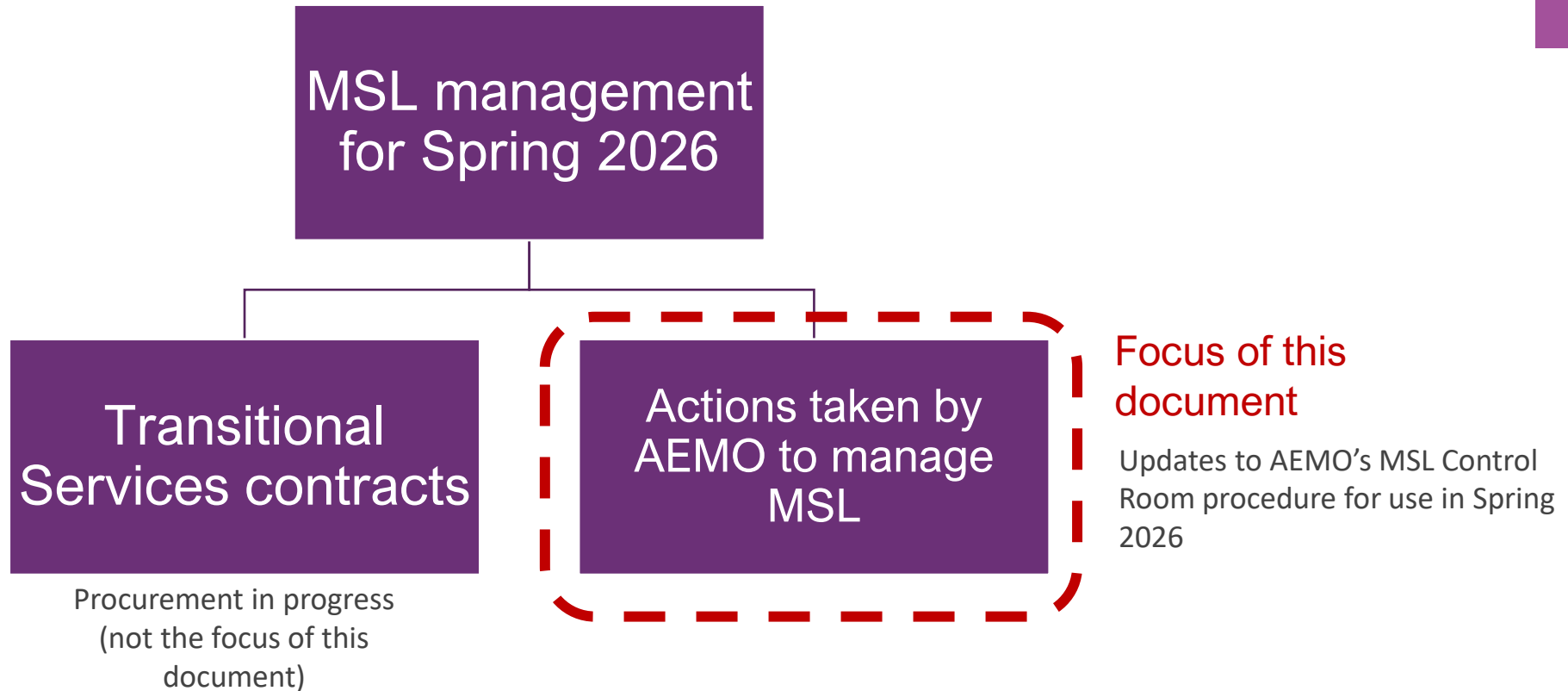
Disclaimer

- This document or the content in it may be subsequently updated or otherwise changed.
- AEMO has made reasonable efforts to ensure the quality of the information in this document but cannot guarantee its accuracy or completeness.
- The relevant provisions of the NER and AEMO's intervention settlement timetable prevail in the case of any inconsistency.
- This document does not constitute legal or business advice. Participants should obtain independent expert advice.

Overview of MSL procedure & updates: inflexible units



Overview



Updates in incoming procedure

Mainland NEM MSL Procedure

Single mainland-wide procedure for managing System Normal MSL events.

Aiming for a consistent approach.

Updates to BESS approach

Since spring 2025, large increase in BESS capacity.

Procedure aims to reflect typical BESS market behaviour in MSL thresholds.

Introducing monitoring of aggregate SoC headroom in each region to ensure system security while delaying intervention.

Co-incident low demand

MSL thresholds calculated for each region considering demand of every mainland NEM region.

Better reflects real power system conditions.

Battery capacity by region



- More accurate thresholds
- Aim to minimise directions

Minimum System Load framework (unchanged)

MSL framework is similar to the Lack of Reserve (LOR) framework.

- LOR framework manages sufficient supply to meet demand.
- MSL framework manages sufficient demand to support the minimum loading of units providing essential system services.

MSL1 
2 credible contingencies from MSL3

MSL2 
1 credible contingency from MSL3

MSL3 
Security violations anticipated

Management actions during MSL conditions (unchanged)

KEY ACTIONS:

Based on National Electricity Rules (NER) security framework, and SO_OP_3715 Power System Security Guidelines

MSL1 
2 credible contingencies from MSL3

Monitor, issue market notice

1. Participants may take actions in response to MSL1 market notice

MSL2 
1 credible contingency from MSL3

Clear MSL2 if possible, and take actions necessary to land satisfactory and return to secure within 30min following a credible contingency:

1. Recall network outages
2. Enable providers of MSL Type 1 Transitional Services
3. Directions to participants (including non-scheduled generators, pumps, inflexible generators, BESS)

MSL3 
Security violations anticipated

Actions to manage MSL3:

1. Any residual MSL2 management actions available
2. Instruction to NSPs to maintain demand at MSL3
3. If real time security violations are observed, instruct NSPs to increase demand to MSL3, including shedding of reverse flow feeders.

Inflexible units and MSL

- As MSL periods approach, NEMDE will give units dispatch targets below MSOL (Minimum Safe Operating Level)

Refer to AEMO guide [SO OP 3705](#) section 9.4:

In instances where a *scheduled generating unit* or *semi-scheduled generating unit* has reached its minimum safe operating level and cannot safely follow a *dispatch instruction* to vary its output downwards, it is appropriate for a zero down *ramp rate* to be provided to AEMO, as long as the zero *ramp rate* can be justified on the basis of a technical limitation.

This approach should be used in preference to submitting an inflexible bid, as it provides greater flexibility to ensure the market remains in a *secure operating state*.

- Pre-Dispatch will not reflect likely outcomes
- Making decommitment decisions early and reflecting in bids will assist AEMO in managing MSL conditions

Inflexible units directions approach (proposed)

- If an **MSL2** is forecast, AEMO will take actions to clear the **MSL2**, as per SO_OP_3715:
 - Recall network outages
 - Enable providers of MSL Type 1 Transitional Services (if available)
- If further action is required: Directions to participants
 - Including non-scheduled generators, pumps, inflexible generators and BESS
 - Decisions are driven by power system security and reliability requirements, with reasonable endeavours to minimise costs related to the direction
- If an inflexible unit is directed:
 - Direction to “maintain 0 MW output”
- AEMO will not direct units to 0MW if they are needed for system security or reliability, including considerations such as:
 - System strength requirements
 - FCAS and frequency control
 - Voltage control and reactive power management
 - Reserve adequacy (including reserve impacts in the subsequent evening peak or subsequent days)
 - Or any other system security or reliability reason

Alternatives to 0 MW

- Please contact us for a 1:1 discussion if there are preferred alternatives for your unit, available and practical for coming Spring (from 1 Sept).
 - Options for reducing MSOL
 - Auxiliary firing
 - Other?
- Noting a continuing requirement to meet Generator Performance Standard (GPS) obligations, including:
 - Disturbance ride-through and stability
 - Unit flexibility
 - Reactive power and voltage management capabilities

Please contact der.opsupport@aemo.com.au if any alternatives to consider for management of MSL conditions

Inflexible units directions approach (proposed)

- If it is necessary to direct a non-essential inflexible unit to 0 MW, the unit will be selected based on a balance of factors as relevant to system conditions at the time, preferencing:
 - Relatively higher minimum safe operating level (MSOL)
 - Relatively lower Var absorption capability
 - Relatively shorter expected return to service time
- In **MSL2**, if a unit selected for direction can reduce generation to 0 MW in less than 30 mins, procedure is to direct the unit 'post-contingent'
 - **Reduces directions:** Direction would be issued if a contingency event occurs, which reduces the likelihood of the direction being given.

Key parameters for your units during MSL conditions

- These parameters are important for MSL management:
 - Minimum safe operating level (MSOL)
 - Max reactive absorption at MSOL (MVar)
 - Time to ramp to 0 MW following a direction
 - Time to return to service at MSOL
- AEMO sought key parameter information from operational staff in June, and will contact participants asking for these key parameters:
 - Up to 7 days ahead of a **MSL2/MSL3**, and
 - On the morning of a **MSL2/MSL3**

When contacted, please be ready to advise AEMO of any operational changes from the data provided

- Please contact us ASAP if any of these parameters need updating for operational use in coming Spring

Please contact der.opsupport@aemo.com.au if any changes

MSL Direction Market Notice

AEMO ELECTRICITY MARKET NOTICE.

Direction - in {{REGION}} region to {{UNIT.ParticipantName}} -
{{UNIT.DUIDName}}

In accordance with section 116 of the National Electricity Law, AEMO is issuing a direction to {{UNIT.ParticipantName}}. For the purposes of the National Electricity Rules this is a direction under clause 4.8.9(a1) (1).

Direction issued to: {{UNIT.ParticipantName}} - {{UNIT.DUIDName}} at
{{Hrs[2]}} hrs {{DATE:TODAY}}

Type of resource: generating unit

Required actions: maintain 0 MW output at {{HRS[1]}} hrs {{DATE[1]}}

Services provided: Minimum System Load Management

Circumstances necessitating the direction: Minimum System Load Management

Circumstances necessitating the direction additional detail: AEMO has detected that there is an elevated risk of insufficient demand to maintain a secure operating state

Expected duration: {{Hrs[3]}} hrs {{DATE[3]}} / further notice.

{{UNIT.ParticipantName}} does not incur any civil monetary liability for a relevant action taken in accordance with this direction unless the action is taken in bad faith.

Manager NEM Real Time Operations

Cancellation of MSL Direction

AEMO ELECTRICITY MARKET NOTICE

Cancellation: Direction issued to: {{UNIT.ParticipantName}} - {{UNIT.DUIDName}}

Refer to Market Notice {{MNOTICE.NoticeID}}

Direction is cancelled from: {{Hrs[3]}} hrs {{DATE[3]}}

Manager NEM Real Time Operations

Timeline of actions: Inflexible units

	AEMO actions	Inflexible unit actions
Up to a week ahead	- Publish MSL1/ MSL2/MSL3 forecast notice - Contact inflexible unit operators in region for updates to unit parameters	- No actions needed - Making decommitment decisions early and reflecting in bids will assist
Day before forecast MSL2 / MSL3	Issue Enablement Instructions to MSL Transitional Service Providers (if available)	- No actions needed - Making decommitment decisions early and reflecting in bids will assist
Morning of MSL2 / MSL3	- Contact Participants to confirm unit parameters - Actions to clear MSL2 at latest time to act (recall outages, enable Transitional Services, directions to participants), accounting for anticipated participant behaviour	Be ready to provide any updates to parameters for your unit when asked
If MSL2 / MSL3 persists after other AEMO actions	- Issue direction to required unit(s) to reduce generation to 0 MW - AEMO will only direct if feasible based on system security and reliability needs	Respond to direction: reduce output to 0 MW
At the earliest of: End of all MSL conditions, or 1600h unless in MSL3	AEMO direction ends	Participants resume market behaviour

Incidence of MSL

- Analysis of MSL incidence based on minimum system demand forecasts developed for the 2026 ESOO still underway
- Once the analysis is finalised we will provide an update
- Early indications suggest MSL2 events are possible in all NEM mainland regions, but with low probability in QLD and very low probability in NSW.

Directions compensation

- AEMO may direct when a region is in MSL2 or MSL3
- Direction to “maintain 0 MW output”
- AEMO determines under NER 3.15.7A whether any *other compensable service* has been provided under a direction
- If any unit is directed to reduce generation or decommit, it is not providing a compensable service and therefore not eligible for compensation under either the current ‘energy’ or ‘other compensable service’ directions compensation frameworks.

AEMC consultation 'improving compensation frameworks' open for submissions

Improving compensation frameworks

[f](#)
[in](#)
[t](#)
[e](#)
[p](#)

Rule Change: Open

Overview

On 9 July 2026, the Australian Energy Market Commission (AEMC) published a draft determination and more preferable draft rule to improve compensation frameworks in the National Electricity Market (NEM).

[View more](#)

Documentation

Draft **Initiation**

AEMC documents

 [Draft determination](#)

 [Information Sheet](#)

 [Draft rule](#)

 [Draft rule markup](#)

 [Statutory notice - s 99](#)

Project Details

Reference:	ERC0425
Proponent(s):	AEMO, Tilt Renewables
Stage:	Consultation on Draft Determination
Date initiated:	19-Mar-2026
Submissions Close:	3-Sep-2026
Consultation Paper:	19-Mar-2026
Draft Determination:	9-Jul-2026

Key Dates

15 Oct	Improving compensation frameworks - Expected Completion	ERC0425
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Key Links

Draft determination	 [713.47 KB]
Information Sheet	 [106.27 KB]
Draft rule	 [299.87 KB]
Draft rule markup	 [2.05 MB]

Make a submission

[Make a submission](#)

- Draft rule proposes a suite of amendments to improve how compensation is assessed and administered across directions, market suspension, and administered pricing:
 - improving the calculation of compensation by introducing a consistent methodology across frameworks
 - allowing opportunity costs to be claimed across all compensation frameworks
 - introducing clearer and more consistent governance and administrative processes
 - improving alignment in cost recovery arrangements and supporting information requirements
- Stakeholders able to engage directly in this AEMC consultation process, and through submissions, set out whether:
 - the draft rule is likely to address the current challenges and limitations of the existing framework, or
 - additional reform may be required and what they may entail.



- Draft determination published **9 July**
- Submissions close **3 September**

Further information

- All-industry Spring Readiness briefing (August)
- AEMO will publish a short fact sheet as supporting material in Q3
- New procedure targeting go-live from 1 September

Managing Distributed Energy Resources in Operations

DER behaviour during disturbances >

Power system model development >

Managing Minimum System Load (MSL) >

Adapting and managing Under Frequency Load Shedding at times of low demand >

Managing Minimum System Load (MSL)

Australians continue to invest in distributed energy resources (DER) at world-leading levels. More than one-third of homes across the country now host distributed solar photovoltaic (PV) systems, helping households and business reduce their energy bills and directly contributing to the decarbonisation of the energy system.

Given the growing aggregate contribution of DER generation, there are increasing periods where distributed PV generation is very high relative to underlying demand, resulting in low



Please contact
der.opsupport@aemo.com.au
for follow-up discussions



For any further questions, contact the project team at
der.opsupport@aemo.com.au



For more information visit
aemo.com.au