



## The dispatch process

AEMO conducts the market through a centrally coordinated dispatch process that pools supply from producers and delivers required quantities of electricity from the pool to wholesale consumers.

AEMO uses the NEM Dispatch Engine (NEMDE) to ensure the central dispatch process maximises value of trade across energy and frequency control ancillary services (FCAS) markets, subject to various constraints. NEMDE takes key inputs such as bids, demand forecasts, network constraints, and technical limits of plant and transmission lines. NEMDE then performs an optimisation process, NEMDE then determines the most cost-effective solution of supply dispatch to satisfy demand while respecting constraints.

This dispatch process runs and solves for every 5-minute dispatch interval. However, the entire process takes time, reflecting the scale and complexity of the optimisation. Under some conditions – such as when the power system or market is under stress, for example due to over-constrained dispatch or intervention – the solve can take longer.

## How are dispatch instructions issued?

AEMO's interfaces for issuing dispatch instructions are either via:



Electricity Market Management System (EMMS) Data Interchange



AEMO's Automatic Generation Control (AGC) system



SCADA may also be used to receive dispatch instructions, but this is a secondary system and AEMO is unable to ensure the instruction is sent to and received by a participant.

## What are the key time points of the dispatch process?

Power system or market events can impact timings; however, the following shows the typical timing sequence across the dispatch process.



Input Collection

~T -38s



SCADA Snapshot

~T -3s



Dispatch Solution Complete

~T +8s



Data published to participants

~T +12s



Data loaded to participants databases

~T +19s

## The dispatch process can be categorised into three core stages:



### INPUTS



#### Key inputs:

- Demand forecasts
- Bids (Energy and FCAS)
- SCADA measurements
- Unconstrained Intermittent Generation Forecast (UIGF)
- Constraints (network, interconnector, FCAS)
- Interconnector conditions

### NEMDE



NEMDE consumes these inputs and solves to find the least-cost solution to supply the assumed level of demand at the end of the dispatch interval. The solve is co-optimised across the energy market and all FCAS markets.

Note that NEMDE may run multiple times to account for different input configurations – such as Basslink switch run, Fast Start commitment run, or intervention runs. As well as Over-Constrained Dispatch (OCD) re-runs as required. Further information here: [Dispatch procedure](#)

### OUTPUTS



A consolidated NEMDE output file of the solution is generated and distributed.

#### Key outputs:

- Dispatch instructions containing Dispatch Targets for all scheduled resources
- Prices
- Constraint information

The outputs become an input to feed into downstream applications and process.

### Fast Facts: 2025 Q1-Q2 Stats



#### Constraints

~1,000 invoked constraints per interval



#### Bids

Avg. of ~1,750 of bids per interval, steadily increasing throughout the year



#### SCADA

Over 8,000 SCADA data points per interval



#### OCD re-runs

Over 52,000 intervals run, with 32 over-constrained dispatch intervals recorded

#### NEMDE queue service

The NEMDE queue service allows registered participants to edit and submit NEMDE input files and receive the corresponding output file.

#### NEMDE output and price setter files

The NEMDE price setter and output files are transactional files that can be accessed and downloaded from the AEMO NEMWEB Data portal



About us: AEMO is the independent energy market and system operator and system planner for the National Electricity Market (NEM) and Western Australia's Wholesale Electricity Market (WEM). AEMO is a not-for-profit company, with a membership of state and federal governments (60%) and energy industry members (40%).

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