

EMMS - Technical Specification - July 31 2025

1.01 February 2025

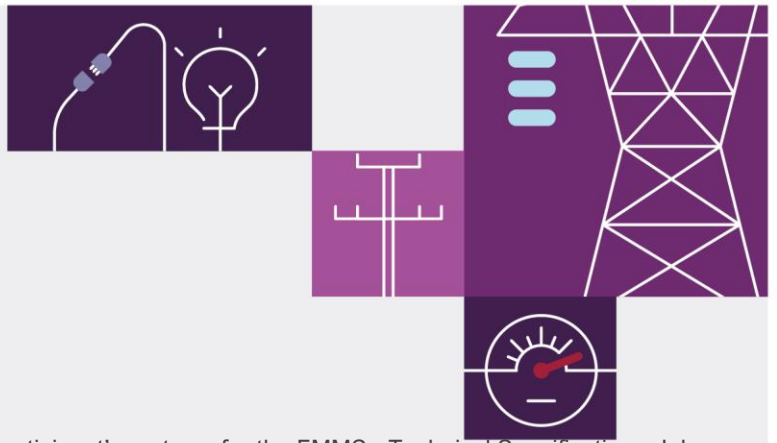
Pre-production: Tuesday 20 May 2025

Production: Tuesday 31 July 2025

Rules effective: Thursday 31 July 2025

Release series: EMMS31072025





Important notice

Purpose & audience

This document describes the technical changes required to participant's systems for the EMMS - Technical Specification - July 31 2025 (Release). The Australian Energy Market Operator (AEMO) provides this information as a service targeting business analysts and IT staff in participant organisations. It provides guidance about the changes to their market systems under the National Electricity Rules (Rules), as at the date of publication.

How to use this document

- If you have questions about the business aspects of these changes, please see Consultations on AEMO's website.
- The references listed throughout this document are primary resources and take precedence over this document.
- Unless otherwise stated, you can find resources mentioned in this guide on AEMO's website.
- **Text in this format** is a link to related information. Some links require access to MarketNet.
- **Text in this format**, indicates a reference to a document on AEMO's website.
- **Text in this format** is an action to perform in the Markets Portal.
- This document is written in plain language for easy reading. Where there is a discrepancy between the Rules and information or a term in this document, the Rules take precedence.
- Glossary Terms are capitalised and have the meanings listed against them in the Glossary.
- Rules Terms have the meaning listed against them in the **National Electricity Rules** (Rules).

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Distribution

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Version History

1.01 See Changes in this version.

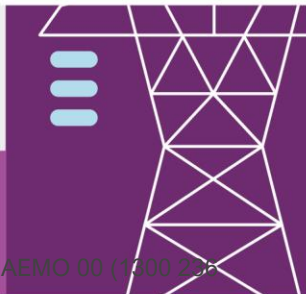
Documents made obsolete

The release of this document changes only the version of EMMS - Technical Specification - July 31 2025.



Support Hub

To contact AEMO's Support Hub use Contact Us on AEMO's website or for urgent matters phone: 1300 AEMO 00 (1300 236 600).





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1 Introduction

1.1 Audience

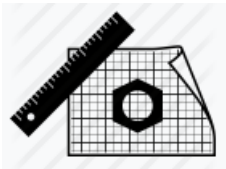
AEMO provides this information as a service targeting business analysts and IT staff in Registered Participant companies.

1. The primary audience is business analysts and IT staff in Registered Participant companies.
2. The secondary audience is IT staff from Scheduled Bidirectional Units (BDUs) and Scheduled Generators.

1.2 Objective

The EMMS - Technical Specification - July 31 2025 (Release) describes the projects planned by AEMO from a participant perspective and includes any system related changes for participants.

1.3 Status

Version	Status
1.01	Updated version based on the design. We still expect changes to the design while development and testing are in progress.
1.00	Updated version based on the design. We still expect changes to the design while development and testing are in progress.
0.01	<div></div> <p>Initial Draft for review. The design is not ready for participants' builds</p> <p>Presents the EMMS - Technical Specification - July 31 2025 evolving design.</p> <p>Please send feedback to Contact Us. In the Details of your enquiry section, mention the EAS Knowledge Management team as the Resolver group.</p>

1.4 Release dates

Scheduled for implementation in:

- Pre-production: Wednesday 21 May 2025

- Production: Tuesday 31 July 2025

1.5 Projects and enhancements

Changes and enhancements for this Release include:

No.	Functionality	Change
1	APIs	For more information, see High-level changes
2	EMMS Data Model v5.5	
3	Markets Portal	

1.6 Rule and procedure changes

The following rules and procedures take precedence over technical specifications and guides.

Title	Project	Version/status	Effective
Updating Short Term PASA		Final	31 July 2025
ST PASA Procedure		New	31 July 2025
Reliability Standard Implementation Guidelines (RSIG)			31 July 2025
Spot Market Operations Timetable			31 July 2025
SO_OP_3703 Short Term Reserve Management			31 July 2025

1.7 Related technical specifications

Title	Description
EMMS – Technical Specification – Data Model v5.5 – April 2025	Updated

1.8 Related documents

Once published, these resources take precedence over this technical specification

These guides and resources are updated according to this technical specification and published for the pre-production Release Date.

Title	Description	Status
Markets Portal Help	Updates the Energy and FCAS Bidding topics: <ul style="list-style-type: none"> - Energy and FCAS Web Bids - Format and Validation for FTP Energy, FCAS and MNSP Bids and Offers - Bidding Validation Messages 	Not started
Data Interchange Online help	Help using Data Interchange and the Data Model	Not started
NEM Dispatch Bidding API Reference	Allows authorised participants to submit and retrieve their NEM Dispatch Bids/Offeres.	Not started

1.9 Approval to change

There is no approval or agreement to change required from participant change controllers for this Release.

1.10 Market systems user group meetings

The Market Systems User Group (MSUG) is an industry user group established to discuss NEM wholesale and retail IT systems releases. Its purpose is to facilitate the continuing improvement of AEMO's IT systems by seeking feedback and collaboration from participants.

MSUG meetings are open to all interested parties, with invitations sent to all included on the distribution list. If you have a technical question for a project and want to attend the MSUG ask your company's support team to include your email address in their **AEMO Help Desk Bulletin (CRM)** distribution list.

1.11 Version numbers

AEMO releases new versions of this document as the technical requirements are streamlined.

Incremental version numbers such as 1.01, 2.01 and so on mean there is a minor change to the technical specification.

Major version numbers such as 1.00, 2.00 means there are substantial changes to the technical specification. Participants must carefully review these changes, detailed on page 4.

1.12 Changes in this version

The changes in this version include:

- Adds FAQs based on MSUG questions.

2 Proposed Timeline

All dates in this section are tentative and are subject to change.

The dates for the Market System User Group Meetings (MSUG) are tentative. We will provide an invitation one week prior to the meeting.

Milestone	Date	Description
Approval required	NA	Final date for participant approval of this Release
Revised Technical Specification	November 2024	<p>AEMO releases new versions of this document as the technical requirements are streamlined. During the project this document is the source of truth</p> <p>From the production release, the technical specification becomes final and the Related become the source of truth.</p> <p>Technical Specification Portal</p>
Related Documents publication	20 May 2025	Release of guides and resources mentioned in Related
MSUG meeting: pre-release review	13 November 2024 (TBC)	<p>Market Systems User Group Meeting (MSUG) to review the technical specification and ask AEMO technical SMEs questions</p> <p>This date is tentative. The Knowledge Management Team provides the invitation prior to the meeting</p>
Pre-production Data Model auto subscription	25 March 2025 No auto-subscription for existing files	<p>For any existing files with modified or new tables, if participants are subscribed, AEMO moves them to the Legacy version</p> <p>For more details, see Data subscription on page 8</p>
Pre-production Data Model release	25 March 2025	Participant Data Model scripts released

Proposed Timeline

Milestone	Date	Description
Pre-production refresh	8 July 2024 – 12 July 2024	Refresh of the pre-production system with data refreshed from the production system. An outage of up to five days can occur to the pre-production environment during this period. Participant access is not restricted, however, AEMO do not guarantee the pre-production data content or system availability. During the refresh, access to other AEMO systems such as AWEFS, EMMS, OPDMS, and STTM may be intermittently affected
ST PASA Procedure and Recall Period pre-production implementation	13 May 2025 – 20 May 2025	<p>AEMO implements components of the Release to pre-production for participant testing</p> <p>AEMO has full access to the system during this period</p> <p>Participant access is not restricted; however, the data content or system availability is not guaranteed</p>
ST PASA Procedure and Recall Period pre-production available	20 May 2025	Testing period begins for participants
Industry Testing	20 May 2025 - 17 June 2025	Unstructured participant testing in the pre-production environment
MSUG meeting: pre-production review	16 April 2025 (TBC)	<p>MSUG to review the technical specification and ask AEMO technical SMEs questions</p> <p>This date is tentative. The Knowledge Management Team provides the invitation prior to the meeting</p>
Production Data Model auto subscription	29 April 2025 (TBC) No auto-subscription for existing files	<p>For any existing files with modified or new tables, if participants are subscribed, AEMO moves them to the Legacy version</p> <p>For more details, see Data subscription on page 8</p>
Production Data Model release	29 April 2025	Participant Data Model scripts released
ST PASA Procedure and Recall Period production implementation	23 June 2025 - 30 June 2025	AEMO implements the release to production
ST PASA Procedure and Recall Period production systems available	1 July 2025	Production systems available to participants

Proposed Timeline

Milestone	Date	Description
MSUG meeting: post-production review	14 May 2025 (TBC)	Market systems user group meeting to review the implementation of the production release This date is tentative. The project manager will provide an invitation one week prior to the meeting
Rule effective date	31 July 2025	ST PASA Procedure and Recall Period rule change enforced

3 Participant Impact

1.1 EMMS data model v5.5

Participants must refer to the [EMMS Technical Specification – Data Model v5.5 – April 2025](#) for all tables and data population dates related to the ST PASA Procedure and Recall Period project.

1.2 Data subscription

1.2.1 Auto-subscription

Existing participants are auto-subscribed to any new files when they upgrade to the latest data model version. New file names to be advised.

1.2.2 Legacy files

There is **no** auto-subscription for the following existing files. Participants are moved to the Legacy version of this file and continue to receive the same data until they upgrade to the latest data model version and subscribe manually to the updates files.

4 ST PASA Procedure and Recall Period

ST PASA is the tool that AEMO uses to forecast reliability and security conditions in the national electricity market up to seven days ahead of real time.

4.1 Goal

This project changes for the following:

- specifies that AEMO must publish forecasts of:
 - available capacity of individual scheduled generating plant and wholesale demand response units
 - PASA availability for individual scheduled generating units, scheduled loads, scheduled network service providers and wholesale demand response units
- specifies that ST PASA covers each 30-minute period (or such shorter period as determined by AEMO) in at least the seven trading days from and including the day of publication
- makes changes to the definition of energy constraint and PASA availability.

4.2 High-level changes

Function	Description	Reference
APIs	Detailed specifications and context for API development	APIs
EMMS Data Model v5.5	Updates to tables in the BIDS and STPASASOLUTION packages. For more information, see EMMS Technical Specification – Data Model v5.5 – April 2025	
Markets Portal	Adds Recall Period column in the Energy & FCAS web interface on the Markets Portal	Markets Portal

4.3 Bidding service

The changes to the bidding service are:

- Adds a new field RECALL_PERIOD (in hours) to Energy Bid trading intervals for all scheduled resources.

- The field RECALL_PERIOD has a default value of 24000 hours for Scheduled Resources for Energy bids
- The maximum limit for the RECALL_PERIOD is set to 24000 hours
- The field RECALL_PERIOD is NULL for FCAS bids

4.4 Bidding APIs

Adds a new optional JSON attribute recallPeriod for all scheduled resources including scheduled generating units, semi-scheduled generating units, scheduled bidirectional units (BDU), scheduled loads, scheduled WDR and Scheduled Market Network Services (MNSP).

For more information, see APIs.

4.5 Bidding web interface

The Bidding web interface includes a new field Recall Period for Get and Submit Energy bids. For more information, see Markets Portal.

4.6 Bidding validation messages

Adds new validation messages as follows:

Error Message	
Rejected bids for eligible DUIDs for invalid RECALL_PERIOD reasons	<p>Bid Recall Period applies only for ENERGY and MNSP Bids. Bid Recall Period must be an integer or a decimal number with no more than two decimal places, between 0 and the pre-defined Max Limit.</p> <p>The maximum limit is initially configured to 24000 hours and can be reconfigured later.</p> <p>If the RECALL_PERIOD value is more than a pre-defined Maximum Limit, it is automatically capped at that Maximum Limit.</p>
Rejected bids for ineligible DUIDs with RECALL_PERIOD	Bid Recall Period invalid for DUID

4.7 NEM reports

4.7.1 STPASA_DUIDAVAILABILITY

A new report called STPASA_DUIDAVAILABILITY published every 30 minutes, for all scheduled generating units, semi-scheduled generating units, scheduled bidirectional units, scheduled WDR and scheduled loads, for a configurable number of half hour ended intervals starting from the current half hour ended interval.

The new NEM Report is triggered after the completion of each 30-minute Predispatch run and is published to the PASA section in the [NEMWeb](#). For more details on the table, see the [EMMS Technical Specification – Data Model v5.5 – April 2025](#).

4.7.2 BIDOFFERPERIOD and MNBP_BIDOFFERPERIOD

Adds the new RECALL_PERIOD column to the Private, Public Next-Day bidding reports.

The value for the RECALL_PERIOD column is NULL in all FCAS bidding reports.

5 Electricity Data Model 5.5

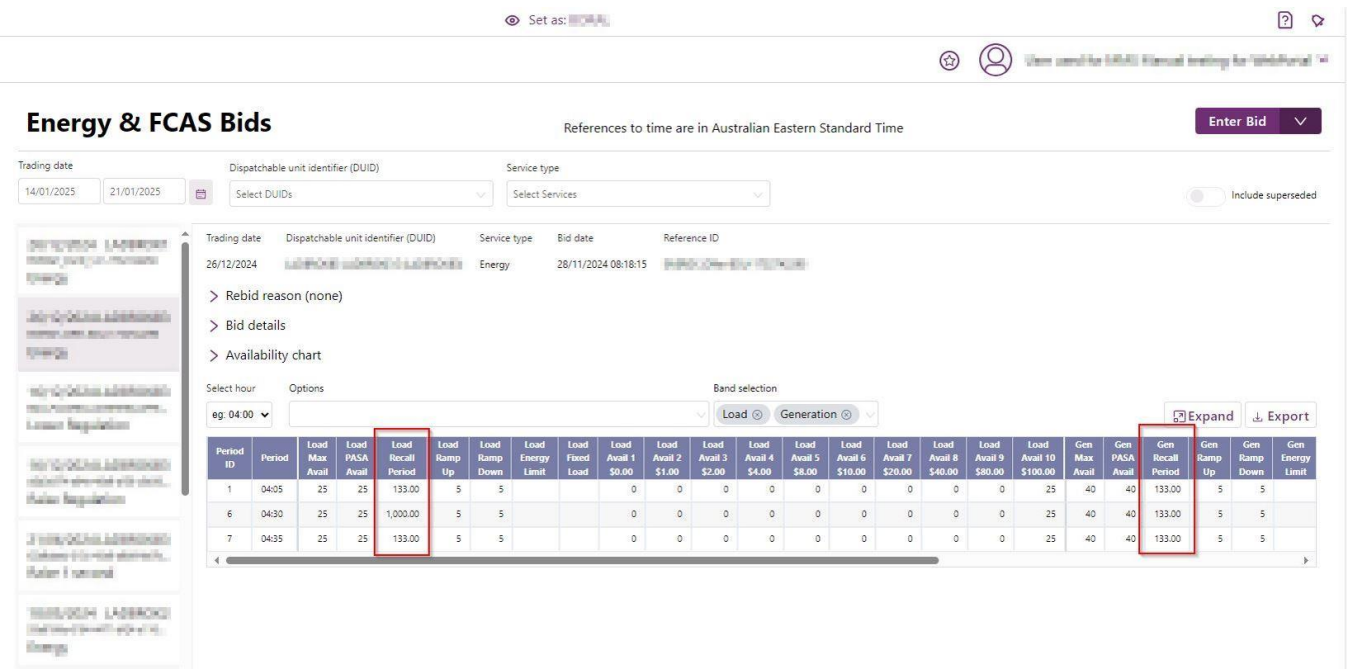
This project consists of some database changes in the upcoming version of the Electricity Data Model 5.5. For more details on these updates, see [EMMS Technical Specification – Data Model v5.5 – April 2025](#).

6 Markets Portal

The Bidding web interface includes a new field Recall Period for Get and Submit Energy bids.
For example:

Get Bid and Get Bids screen

The screenshots used are examples only and the final web screen may be different.



Submit Bids

Set as:

User used for

Enter bid

References to time are in Australian Eastern Standard Time

Submit

Trading date *

Dispatchable unit identifier (DUID) *

Service type *

16/12/2024

Energy

Event time

Reference ID

Rebid reason

00 :hh 00 :mm 00 :ss

> Additional reasons

> Bid details

Select hour

Options

eg 04:00

Duplicate records

Change Prices

Quick-fill Bid

Expand

Export

Import

Period ID	Period	Max Avail	PASA Avail	Recall Period	Ramp Up	Ramp Down	Fixed Load	Avail 1 \$0.00	Avail 2 \$1.00	Avail 3 \$2.00	Avail 4 \$4.00	Avail 5 \$8.00	Avail 6 \$10.00	Avail 7 \$20.00	Avail 8 \$40.00	Avail 9 \$50.00	Avail 10 \$100.00
1	04:05	35	35	23	240	240		0	0	0	0	0	0	0	0	0	100
2	04:10	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
3	04:15	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
4	04:20	35	35	0	240	240		0	0	0	0	0	0	0	0	1	100
5	04:25	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
6	04:30	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
7	04:35	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
8	04:40	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
9	04:45	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
10	04:50	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
11	04:55	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
12	05:00	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100
13	05:05	35	35	0	240	240		0	0	0	0	0	0	0	0	0	100

For BDUs, the recall period column is added to both the LOAD and GEN sides.

In case of an error, you see the following:

AEMO Markets Portal

Set as:

User used for

Enter bid

References to time are in Australian Eastern Standard Time

Submit

Trading date *

Dispatchable unit identifier (DUID) *

Service type *

16/12/2024

Energy

Event time

Reference ID

Rebid reason

00 :hh 00 :mm 00 :ss

GHGF

> Additional reasons

> Bid details

Daily energy constraint

Fast start min load

T1 - Time to synchronise

T2 - Time to min load

T3 - Time to min load

T4 - Time to shutdown

5

1

2

3

4

Select hour

Options

eg 04:00

Duplicate records

Change Prices

Quick-fill Bid

Expand

Export

Import

1 errors found

Recall Period Violation

Recall Period applies only for ENERGY and MNPS Bids. Recall Period must be an integer or a decimal number with no more than two decimal places, between 0 and 24000 in period 1

At 04:05, period 1

Period ID	Period	Max Avail	PASA Avail	Recall Period	Ramp Up	Ramp Down	Fixed Load	Avail 1 \$0.00	Avail 2 \$1.00	Avail 3 \$2.00	Avail 4 \$4.00	Avail 5 \$8.00	Avail 6 \$10.00	Avail 7 \$20.00	Avail 8 \$40.00	Avail 9 \$80.00	Avail 10 \$100.00
11	04:05	50	50	24001	5	5		0	0	0	0	0	0	0	0	0	50
2	04:10	50			5	5		0	0	0	0	0	0	0	0	1	50
3	04:15	50			5	5		0	0	0	0	0	0	0	0	1	50
4	04:20	35			5	5		0	0	0	0	0	0	0	0	0	50
5	04:25	35			5	5		0	0	0	0	0	0	0	0	0	50
6	04:30	35			5	5		0	0	0	0	0	0	0	0	0	50
7	04:35	35	35	16	5	5		0	0	0	0	0	0	0	0	0	50
8	04:40	35	35	16	5	5		0	0	0	0	0	0	0	0	0	50
9	04:45	35	35	16	5	5		0	0	0	0	0	0	0	0	0	50
10	04:50	35	35	16	5	5		0	0	0	0	0	0	0	0	0	50

7 APIs

7.1 submitBids API

Adds a new optional JSON attribute recallPeriod for all scheduled resources including scheduled generating units, semi-scheduled generating units, scheduled bidirectional units (BDU), scheduled loads, scheduled WDR and Scheduled Market Network Services (MNSP).

If this value is not provided, the default value (24000 hours) is saved, indicating no Recall to the PASA Availability.

This new attribute is included in the existing path variables. For example:

Energy bids:

```
{
  "energyPeriods": [{
    "recallPeriod":
  }]
}
```

MNSP bids:

```
{
  "mnsperiods": [{
    "recallPeriod":
  }]
}
```

7.1.1 Successful submitBids API example

The request in the following submitBids API example has values for 288 intervals for the LOAD and GEN direction.

Request

```

{
  "referenceId": "{{referenceId}}",
  "comments": "{{comments}}",
  "authorisedBy": "{{authorisedBy}}",
  "energyBids": [
    {
      "tradingDate": "{{tradingDate}}",
      "duid": "{{duid}}",
      "direction": "LOAD",
      "prices": [0,1,2,4,8,10,20,40,80,100], "energyPeriods": [
        {"periodId":1, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "recallPeriod": 1100, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        , {"periodId":2, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        , {"periodId":3, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        , {"periodId":4, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "recallPeriod": 4100, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        , {"periodId":5, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        .....
        .....
        .....
        , {"periodId":285, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        , {"periodId":286, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        , {"periodId":287, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
        , {"periodId":288, "rampUpRate":5, "rampDownRate":5, "pasaAvail":25, "maxAvail":25, "bandAvail": [0,0,0,0,0,0,0,0,0,0,25]}
      ]
    },
    {
      "tradingDate": "{{tradingDate}}",
      "duid": "{{duid}}",
      "direction": "GEN",
      "prices": [120,150,170,185,200,220,240,245,250,256], "energyPeriods": [
        {"periodId":1, "rampUpRate":5, "rampDownRate":5, "pasaAvail":40, "maxAvail":40, "recallPeriod": 1200, "bandAvail": [0,0,0,0,0,0,0,0,0,0,40]}
        , {"periodId":2, "rampUpRate":5, "rampDownRate":5, "pasaAvail":40, "maxAvail":40, "bandAvail": [0,0,0,0,0,0,0,0,0,0,40]}
        , {"periodId":3, "rampUpRate":5, "rampDownRate":5, "pasaAvail":40, "maxAvail":40, "bandAvail": [0,0,0,0,0,0,0,0,0,0,40]}
        , {"periodId":4, "rampUpRate":5, "rampDownRate":5, "pasaAvail":40, "maxAvail":40, "recallPeriod": 4200, "bandAvail": [0,0,0,0,0,0,0,0,0,0,40]}
        , {"periodId":5, "rampUpRate":5, "rampDownRate":5, "pasaAvail":40, "maxAvail":40, "bandAvail": [0,0,0,0,0,0,0,0,0,0,40]}
        .....
      ]
    }
  ]
}

```

```

.....
.....
, {"periodId":283,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":284,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":285,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":286,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":287,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":288,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}

]
}

],
  "fcasBids": [],
  "mnsPbids": []
}

```

Response

```

{
  "transactionId": "{{transactionId}}",
  "data": {
    "participantId": "{{participantId}}",
    "offerTimeStamp": "2024-11-26T08:03:55",
    "transactionId": "{{transactionId}}",
    "referenceId": "{{referenceId}}",
    "comments": "{{comments}}",
    "filename": "{{filename}}",
    "authorisedBy": "{{authorisedBy}}",
    "status": "VALID",
    "method": "API"
  },
  "errors": [],
  "warnings": []
}

```

7.1.2 Failed submitBids API example

Request

```

{
  "referenceId": "{{referenceId}}",
  "comments": "{{comments}}",

```

```

    "authorisedBy": "{{authorisedBy}}",
    "energyBids": [
        {
            "tradingDate": "{{tradingDate}}",
            "duid": "{{duid}}",
            "direction": "LOAD",
            "prices": [0,1,2,4,8,10,20,40,80,100], "energyPeriods": [
{"periodId":1,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"recallPeriod": 1100, "bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":2,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":3,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":4,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"recallPeriod": 4100, "bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":5,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
.....
.....
.....
, {"periodId":284,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":285,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":286,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":287,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
, {"periodId":288,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
]
        },

        {
            "tradingDate": "{{tradingDate}}",
            "duid": "{{duid}}",
            "direction": "GEN",

            "prices": [120,150,170,185,200,220,240,245,250,256], "energyPeriods": [
{"periodId":1,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"recallPeriod": 1200, "bandAvail": [0,0,0,0,0,0,0,0,0,40]}
, {"periodId":2,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail": [0,0,0,0,0,0,0,0,0,40]}
, {"periodId":3,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail": [0,0,0,0,0,0,0,0,0,40]}
, {"periodId":4,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"recallPeriod": 4200, "bandAvail": [0,0,0,0,0,0,0,0,0,40]}
, {"periodId":5,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail": [0,0,0,0,0,0,0,0,0,40]}
.....
.....
.....

```



```

, {"periodId":284,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":285,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":286,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":287,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}
, {"periodId":288,"rampUpRate":5,"rampDownRate":5,"pasaAvail":40,"maxAvail":40,"bandAvail":[0,0,0,0,0,0,0,0,0,0,40]}

]
}

],
  "fcasBids": [],
  "mnsbBids": []
}

```

Response

```

{
  "transactionId": "{{transactionId}}",
  "data": {
    "participantId": "{{participantId}}",
    "offerTimeStamp": "2024-11-27T12:41:24",
    "transactionId": "{{transactionId}}",
    "referenceId": "{{referenceId}}",
    "comments": "{{comments}}",
    "filename": "{{filename}}",
    "authorisedBy": "{{authorisedBy}}",
    "status": "CORRUPT",
    "method": "API"
  },
  "errors": [
    {
      "code": "NEM-BIDDING-VALIDATION-INVALIDRECALLPERIOD",
      "source": "$..energyBids[?(@.duid == '{{duid}}' && @.tradingDate == '{{tradingvalue}}')].energyPeriods[?(@.periodId == 1)].direction[?(@.Direction == LOAD)].recallPeriod",
      "title": "Recall Period Violation",
      "detail": "Recall Period applies only for ENERGY and MNSP Bids. Recall Period must be an integer or a decimal number with no

```

```

more than two decimal places, between {{defaultvalue}} and
{{maxvalue}} in period 1"
    },
    {
        "code": "NEM-BIDDING-VALIDATION-INVALIDRECALLPERIOD",
        "source": "$..energyBids[?(@.duid == '{{duid}}' &&
@.tradingDate == '{{tradingvalue}}')].energyPeriods[?(@.periodId ==
4)].direction[?(@.Direction == LOAD)].recallPeriod",
        "title": "Recall Period Violation",
        "detail": "Recall Period applies only for ENERGY and MNSP
Bids. Recall Period must be an integer or a decimal number with no
more than two decimal places, between {{defaultvalue}} and
{{maxvalue}} in period 4"
    },
    {
        "code": "NEM-BIDDING-VALIDATION-INVALIDRECALLPERIOD",
        "source": "$..energyBids[?(@.duid == '{{duid}}' &&
@.tradingDate == '{{tradingvalue}}')].energyPeriods[?(@.periodId ==
1)].direction[?(@.Direction == GEN)].recallPeriod",
        "title": "Recall Period Violation",
        "detail": "Recall Period applies only for ENERGY and MNSP
Bids. Recall Period must be an integer or a decimal number with no
more than two decimal places, between {{defaultvalue}} and
{{maxvalue}} in period 1"
    },
    {
        "code": "NEM-BIDDING-VALIDATION-INVALIDRECALLPERIOD",
        "source": "$..energyBids[?(@.duid == '{{duid}}' &&
@.tradingDate == '{{tradingvalue}}')].energyPeriods[?(@.periodId ==
4)].direction[?(@.Direction == GEN)].recallPeriod",
        "title": "Recall Period Violation",
        "detail": "Recall Period applies only for ENERGY and MNSP
Bids. Recall Period must be an integer or a decimal number with no
more than two decimal places, between {{defaultvalue}} and
{{maxvalue}} in period 4"
    }
],
"warnings": []
}

```

7.2 getBid API

The getBid response adds the new recallPeriod value in the API response for Energy and MNSP bids from the provided bid trading interval fields.

The value is added between the rampDownRate and bandAvail values.

The getBid API endpoint query parameters only (no payload parameters). The response examples are in the following sections.

7.2.1 Successful getBid API example

Response

```
{
  "transactionId": "{{transactionId}}",
  "data": {
    "participantId": "{{participantId}}",
    "offerTimeStamp": "{{offerTimeStamp}}",
    "transactionId": "{{transactionId}}",
    "referenceId": "{{referenceId}}",
    "comments": "{{comments}}",
    "filename": "{{filename}}",
    "authorisedBy": "{{authorisedBy}}",
    "status": "VALID",
    "method": "API",
    "energyBids": [
      {
        "duid": "{{duid}}",
        "tradingDate": "{{tradingDate}}",
        "direction": "LOAD",
        "entryType": "DAILY",
        "fastStartProfile": {},
        "energyPeriods": [
          {
            "pasaAvail": 25,
            "rampUpRate": 5,
            "rampDownRate": 5,
            "recallPeriod": 1100.0,
            "periodId": 1,
            "maxAvail": 25,
            "bandAvail": [
              0,
              0,
              0,
              0,
              0,
              0,
              0,
              0,
              0,
              0,
              25
            ]
          }
        ],
        "pasaAvail": 25,
        "rampUpRate": 5,
        "rampDownRate": 5,
        "recallPeriod": 0.0,
        "periodId": 2,
        "maxAvail": 25,
      }
    ]
  }
}
```

[illegible]

```

    40
    ]
  }
],
"prices": [
  120.0,
  150.0,
  170.0,
  185.0,
  200.0,
  220.0,
  240.0,
  245.0,
  250.0,
  256.0
]
}
]
},
"errors": [],
"warnings": []
}

```

7.2.2 Failed getBid API example

Response

```

{
  "transactionId": "{{transactionId}}",
  "data": {},
  "errors": [
    {
      "code": "NOBIDS",
      "title": "No Bids found",
      "detail": "There are no results for the request"
    }
  ],
  "warnings": []
}

```

8 Reports

See NEM reports. More details to follow in the next version.

9 FAQs

9.1 Where can participants find more details on the default value definitions for RECALL_PERIOD and PASAAVAILABILITY?

The default value based on the consultation with participant is 24000 hours. See [ST PASA Procedure and Recall Period](#) page for more details.

The final definitions of these fields will be in the Procedures.

9.2 What is the difference between a null and blank value for the recallPeriod attribute?

An energy bid is rejected for an interval if:

- recallPeriod attribute is defined, but the value is a null
- recallPeriod attribute is defined, but the value is left blank, for example:

```
"recallPeriod": ,
```

- recallPeriod attribute is defined, but its value is non-numeric, or a string enclosed in quotes, for example:

```
"recallPeriod": <tab key> ,
```

Or

```
"recallPeriod": "<space key>" ,
```

If the Recall Period attribute is removed for an interval, bid is accepted and default value of 24000 is automatically inserted.

The following JSON bid is accepted:

- Recall Period attribute defined in Period 1 = 2
- Recall Period attribute removed in Periods 2, 3, set = 24000 (default)

```

4      "authorisedBy": "HARNESS",
5      "energyBids": [
6        {
7          "tradingDate": "{{tradingDate}}",
8          "duid": "LADBROKB3",
9          "direction": "LOAD",
10         "prices": [0,1,2,4,8,10,20,40,80,100], "energyPeriods": [
11   {"periodId":1,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"recallPeriod": 2, "bandAvail": [0,0,0,0,0,0,0,0,0,25]}
12   , {"periodId":2,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
13   , {"periodId":3,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}

```

The following JSON bid is rejected, because the recallPeriod attribute is defined in Period 4, but the value is null

(JSON schema validation error, 'Invalid Type, expected Number but got Null')

```

5      "energyBids": [
6        {
7          "tradingDate": "{{tradingDate}}",
8          "duid": "LADBROKB3",
9          "direction": "LOAD",
10         "prices": [0,1,2,4,8,10,20,40,80,100], "energyPeriods": [
11   {"periodId":1,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"recallPeriod": 2, "bandAvail": [0,0,0,0,0,0,0,0,0,25]}
12   , {"periodId":2,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
13   , {"periodId":3,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}
14   , {"periodId":4,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"recallPeriod": null, "bandAvail": [0,0,0,0,0,0,0,0,0,25]}
15   , {"periodId":5,"rampUpRate":5,"rampDownRate":5,"pasaAvail":25,"maxAvail":25,"bandAvail": [0,0,0,0,0,0,0,0,0,25]}

```

If in AEMO's web bidding portal the Recall Period cell is left blank for an interval, the Recall Period attribute is removed from the JSON submission for that interval, the bid is accepted and default value of 24000 is automatically inserted.

9.3 What are the updates to the energy constraint and PASA availability definitions?

The changes to the terms are as follows:

- The daily energy constraint validation changes starting 1 July 2025, to reject a bid if the Daily Energy Constraint \geq Registered Maximum Capacity x 24 hours.
- Under the ST PASA rule, effective 31 July 2025, the PASA availability refers to a given recall period (in the bid recall period) rather than the 24-hour recall.

9.4 When can we start entering Recall Period in our energy bids?

You can start entering the recall period value after AEMO implements the bidding system changes on 1 July 2025.

9.5 When will we see the new PDPASA and STPASAs DUID Availability reports?

You will see the new PDPASA_DUIDAVAILABILITY and STPASAs_DUIDAVAILABILITY from 31 July 2025.

9.6 What time will AEMO implement the bidding system changes?

During business hours on 1 July 2025.

10 Implementation

10.1 Transition

TBC

10.2 Upgrading

You can upgrade your pre-production or production Data Model environments once you receive the Data Model scripts. Applying the scripts sets up the new Data Model structure on your local database. You receive the same data until the new versions of fields, files, and reports are released into pre-production or production and you update your subscriptions.

For help, see:

- [Upgrading your DI environments](#)
- [Updating your subscriptions:](#)

10.3 Implications

To maintain systems in-line with AEMO's market systems, participants need to:

- Review and assess the impact on their market systems with respect to the changes implemented as part of this Release.
- Change their systems prior to the implementation of this Release.
- Schedule staff and resources to upgrade their market systems for the production implementation of this Release.

10.4 Risks

- TBC

11 Terms

11.1 Rules Terms

You can find the following terms defined in the [National Electricity Rules \(NER\)](#) and the [Settlements Residue Auction Rules](#).

Term	Term	Term
AEMO	Offer Period	Registered Participant
AEMO Markets Portal	Offer Submission	Trading Interval
Bid File	Offered Units	Trading Limit
Market Participants	Offers	
NEM	Region	
Offer File	Regional reference prices	

11.2 Glossary

You can find a full list of AEMO glossary terms in [Industry Terminology](#) on AEMO’s website.

Abbreviation/Term	Explanation
AEST	Australian Eastern Standard Time
API	Application Programming Interface
BDU	Bi-directional Unit
DEC	Daily Energy Constraint
EMS	Energy Management System
EMMS	Electricity Market Management System; software, hardware, network and related processes to implement the wholesale energy market
FCAS	frequency control ancillary services
FTP	File transfer protocol
NER	National Electricity Rules

Abbreviation/Term	Explanation
MW	Megawatt
MWh	Megawatt hour
Release	EMMS - Technical Specification - July 31 2025
Release Dates	Pre-production: Wednesday 21 May 2025 Production: Tuesday 31 July 2025
TBC	To be confirmed

12 References

Guide to AEMO's e-Hub APIs: Provides details about using AEMO's e-Hub as an interface to communicate information with AEMO. It assists Wholesale electricity and gas participants developing their own APIs.

Guide to Information Systems: Provides guidance for *Registered Participants* and interested parties about AEMO's participant electricity market systems.

Guide to User Rights Management: Assists participant administrators (PAs) to use the user rights management functions in the MSATS Web Portal.

Retail Electricity Market Glossary and Framework: assist participants of the Retail Electricity Market to understand the overall framework. It also contains a list of terms used in the Retail Electricity Market Procedures and a full list of NEM procedures, guidelines, and documents.

12.1 Data interchange and data model resources

12.1.1 About

Information about setting up a Data Interchange environment: Data Interchange Help > [About Data Interchange](#).

12.1.2 Help

- [Data interchange online help](#)

12.1.3 Software

You can find Data Interchange software in the following locations:

- Data Interchange Help > [Software Releases](#).
- Releases directory on the participant file share: FTP to 146.178.211.2 > Data Interchange, pdrBatcher, pdrLoader, or pdrMonitor.

12.1.4 Reports

- Data Interchange Help > [Data Model Reports](#).

12.1.5 Releases

- Data Interchange Help > [Release Documents](#).

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A1. Version history

13.1 V1.00

The changes in this version include:

- Default value for Recall Period updated from 0 to 24000 hours.
- Adds request and response examples for APIs.
- Adds updated screenshots for the web interface. See Markets Portal.
- Adds FAQs based on MSUG questions.

13.2 v0.01

Initial draft