

EMMS Release Schedule and Technical Specification December 2021 v1.01

V1.01 December 2021

Pre-production: 17th November 2021

Production: 8th December 2021

Release series: EMMS1121

Important Notice

PURPOSE & AUDIENCE

This document describes the technical changes required to participant's systems for the AEMO Release Schedule -November 2021 (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.
- [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.
- Rules Terms have the meaning listed against them in the [National Electricity Rules \(Rules\)](#).

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VERSION HISTORY

V1.0 Initial creation for Intermittent Generation Web Portal and API Uplift project

V1.01 Added information for January 2022 patch release.

DOCUMENTS MADE OBSOLETE

The Release of this document changes only the version of EMMS Release Schedule and Technical Specification December 2021 v1.01.

SUPPORT HUB

To contact AEMO's Support Hub use [Contact Us](#) on AEMO's website or Phone: 1300 AEMO 00 (1300 236 600) and follow the prompts.

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1. Introduction

The EMMS Release Schedule and Technical Specification December 2021 v1.01 (Release) includes changes related to participants' IT systems. This technical specification describes the projects planned by AEMO from a participant perspective.

1.1 Audience

AEMO provides this information as a service targeting the below audience in participant organisations:

1. The primary audience is the business analysts and IT staff in the participant organisations implementing and maintaining Data Interchange environments.
2. The secondary audience is Participant Administrators providing rights to their Participant User to access AEMO's systems.

1.2 Objective

The EMMS Release Schedule and Technical Specification December 2021 v1.01 (Release) describes the projects planned by AEMO from a participant perspective and includes the related changes to participants' IT systems

For more information, see:

- [Intermittent Generation Web Portal and API Uplift Project](#) on page 9
- [Electricity Data Model](#) on page 24

1.3 Status

This technical specification is for participant review only. The design may change as the technical requirements are streamlined. Participants can provide feedback to SupportHub@aemo.com.au

The name of this document has been changed to EMMS Release Schedule and Technical Specification December 2021 v1.01.

1.4 Version Numbers

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 Changes in this Version page 5.

1.5 Changes in this Version

The Project includes the following changes:

- Improved Intermittent Generation Web Application
- Participant File Server Interface for Availability Submission
- Participant File Server Interface Retirement
- Electricity data Model : deployed as part of WDR Data model

1.6 Rule and Procedure Changes

There are no rule or procedure changes for this Project.

1.7 Release Dates

Scheduled for implementation in:

- Pre-production: 17th November 2021
- Production: 8th December 2021
- January minor Production release: Week starting 10th Jan 2022

1.8 January Minor Production Release

The following known issues with the Intermittent Generation User Interface will be addressed in a minor release in early January in the week starting 10th Jan 2022.

- MTPASA Availability: The table does show not the offerdatetime or carried forward columns.

- MTPASA Availability: The download csv is missing submission header.
- PD/STPASA Availability: "Carried forward from []" text is displayed when there is no submission being carried forwards
- PD/STPASA and MTPASA Availability: The date picker refreshes data after either From/To date is selected, whereas both should be selected before data is refreshed
- DS forecasts: Dispatch intervals with a Source of 'LAST_TARGET' for a unit are incorrectly shown as 'PARTICIPANT'
- P5MIN, PD, STPASA forecasts: Public aggregations are displayed in the dropdown using the current unit string, not the label string.

1.9 Approval to Change

The changes are the result of feedback received from participants through the Intermittent Generator Forums. There is no approval or agreement to change required from participant change controllers for this Release.

1.10 Proposed Timeline

The dates for the Market System User Group Meetings (MSUG) are tentative. We will provide an invitation one week prior to the meeting. AEMO is consulting on the Release Dates and will advise firm dates closer to the Release Dates.

| Milestone | Date | Description |
|-----------------------------------|-------------------------------|---|
| Revised Technical Specification | November 2021 | Further details of the changes to assist IT staff with their technical implementation. |
| Pre-production refresh | N/A | |
| Pre-production Data Model Release | 1 st October 2021 | Participant Data Model released. For more details, see the IT change and release management > Release Schedule, NEM, EMMS > EMMS Release Schedule and Technical Specification– October 2021. |
| Production Data Model Release | 24 th October 2021 | Participant Data Model deployed in PROD. |

| | | |
|--|---|---|
| User group meeting: pre-production review | 13 th October | Market systems user group meeting to review the implementation of this pre-production Release. |
| Pre-production implementation | 17 th November 2021 | AEMO implements components of the Release to pre-production for participant verification. The verification period begins for participants. |
| Pre prod systems available | 17 th November 2021 | AEMO implements components of the Release to pre-production for participant verification. The verification period begins for participants. |
| Production implementation | 8 th December 2021 | AEMO implements the production Release. Participant Data Model scripts deployed in PROD. |
| Production systems available | 8 th December 2021 | Production systems available to participants |
| January Minor Production Release | Week starting 10 th Jan 2022 | Addresses minor issues with the Intermittent Generation User Interface. |

1.11 Related Documents

These documents are updated according to this technical specification from the pre-production Release Date.

For more information see:

- [Guide to Intermittent Generation](#)
- [NEM Operational Forecasting and Dispatch Handbook for Wind and Solar generators](#)

1.12 Schedule

This endpoint has payload parameters only (no query parameters). Scheduled for implementation in:

- Pre-production: 17th November 2021
- Production: 8th December 2021

1.13 Project and Enhancement List

The EMMS Release Schedule and Technical Specification December 2021 v1.01 includes the following project

- Intermittent generation Web Portal and API Uplift project

1.14 FAQ

Can participants use aseXML and API interchangeably?

Yes, while the aseXML tool is available, participants can use both of them interchangeably. The aseXML tool is due to be decommissioned in 6 months' time post the production release.

Will the availability bid through participant file server be supported after May 2022?

No. API submissions will be the only source of file submission (other than the Intermittent Generation User Interface) from June 2022.

2. Intermittent Generation Web Portal and API Uplift Project

2.1 Overview

AEMO no longer supports the technology used by the Intermittent Generation application. This project improves the web interface, so it is easier for participants to use. It uplifts the current Participant file server interface to use JSON supported APIs.

2.2 Project Changes

The project includes the following changes:

- Improved Intermittent Generation Web Application
- Participant File Server Interface for Availability Submission
- Participant File Server Interface Retirement
- Electricity data Model : deployed as part of WDR Data model

2.3 Improved Intermittent Generation Web Application

The Intermittent Generation web application in AEMO's Markets Portal is updated to a new design, making it easier for participants to use. This includes updates to Availability and Forecast view and edit functionality.

Participants with access to Availability and Forecast screens will continue to have access to these screens.

AEMO is still finalising the portal design and will confirm the design closer to the Release Dates.

Intermittent Generation Availability Web Portal Screens Enhancements

The Intermittent Generation Availability web portal screens are enhanced for pre-dispatch (PD), short term PASA (STPASA) and medium term PASA (MTPASA).

NOTE: THE FOLLOWING EXAMPLES AND SCREEN SHOTS ARE FOR EXAMPLE PURPOSES ONLY AND MAY NOT BE INDICATIVE OF THE FINAL VERSIONS.

The enhancements include:

- A single new screen **PD/STPASA Availability** replaces the following screens:
 - Availability -> Energy Availability -> View Availability
 - Availability -> Energy Availability -> Enter Availability
- A single new screen **MTPASA Availability** replaces the following screens:
 - Availability -> MTPASA Availability -> View Availability
 - Availability -> MTPASA Availability -> Enter Availability

| | |
|-------------------------------|---|
| Intermittent Generation | - |
| Availability | - |
| PD/STPASA Availability | |
| MTPASA Availability | |
| Forecasts | |

- Both view and edit functionality is available in just one screen.
- The energy and MTPASA availability screens display two views:
 - Table view: Displays the availability data in tabular form.
 - Graph view: Displays the availability data in a graphical form. Click Download Graph to save the displayed graph as an image file.

PD/STPASA Availability Screen

The PD/STPASA Availability screen displays the present availability information as of the current trading date and time. You can use this screen to:

- View availability submission for any period

- Submit the availability data by uploading a CSV file
- Download the existing effective availability data to a CSV file.
- Edit Availability data
- Duplicate Availability data
- View the data as a table or a graph for different time periods

PD/STPASA Availability Screen

The following is an example of the PD/STPASA Availability interface screen :

The PD/STPASA Availability screen contains the following fields:

| Field | Description |
|-------------------------|--|
| Unit | The forecast unit ID. |
| From | The From date selects the starting trading day to show availability submissions. Defaults to the current trading day. |
| To | The To date selects the ending trading day to show availability submissions. Defaults to the current trading day. |
| Display all submissions | When selected, shows all availability submissions. The checkbox is disabled by default and shows only the latest availability submission for each day. |

View PD/STPASA Availability Submission for any Period

You can use the search filter to view availability submissions for any period.

To view availability submissions for any period, complete the fields on the screen and then click Submit.

The availability data based on the search criteria displays.

Unit
DUID 1

From 11 / 05 / 2021 To 12 / 05 / 2021

☐ Display all submissions

Upload CSV Submit

Availability submissions for trading days between 11/05/2021 and 12/05/2021

Table View Graph view

Trading day 12/05/2021

Trading day 11/05/2021

Submit the Availability Data using a CSV file

You can submit the availability data by uploading a CSV file.

The CSV structure should have I and D lines as per AEMO CSV standards. The below columns in I and D lines of the three sections must exist and must have exact same values, as follows.

- I,INTERMITTENTGENERATION,SUBMISSION,PARTICIPANTID,DUID
- I,INTERMITTENTGENERATION,LIMIT,DUID,INTERVAL_DATETIME,OFFEREDDATETIME,UPPERMWLIMIT
- I,INTERMITTENTGENERATION,CLUSTERS,DUID,INTERVAL_DATETIME,CLUSTERID,OFFERDATETIME,ELEMENTS_UNAVAILABLE,ELEMENTS_AVAILABLE

To submit the availability data by uploading a CSV file, click Upload CSV on the PD/STPASA Availability screen.

Download the Existing Effective Availability data

To download the existing effective availability data, click, Download CSV on the PD/STPASA Availability Interface screen.

Edit PD/STPASA Availability Data Interface

You can use this screen to edit only current and future trading dates.

Also, within the current trading date only future intervals are editable. The MW limit entered for the DUID should not exceed the registered max capacity on the day.

Elements available must be between 0 and the registered max elements in the cluster on the day.

The following is an example of the PD/STPASA Availability Data Screen.

Unit: BROKENH1

From: 11/10/2021 To: 11/10/2021

☐ Display all Submissions

Availability submissions for trading days between **11/10/2021** and **11/10/2021**

Table View Graph View

Trading Day 11/10/2021 - Carried forward from [], offered [11/10/2021 11:22:45]

| Interval | Upper MW Limit (Maximum capacity 53MW) [-1 means no limit] | Cluster 1 Inverters Available (Maximum of 80) |
|----------|--|--|
| 14:00 | 50 | 73 |
| 14:30 | 50 | 73 |
| 15:00 | 50 | 73 |
| 15:30 | 25 | 73 |
| 16:00 | 50 | 73 |
| 16:30 | 50 | 73 |
| 17:00 | 50 | 73 |
| 17:30 | 50 | 73 |
| 18:00 | 50 | 73 |
| 18:30 | 50 | 73 |
| 19:00 | 50 | 73 |
| 19:30 | 50 | 73 |
| 20:00 | 50 | 73 |
| 20:30 | 50 | 73 |
| 21:00 | 50 | 73 |
| 21:30 | 50 | 73 |
| 22:00 | 50 | 73 |
| 22:30 | 50 | 73 |
| 23:00 | 50 | 73 |
| 23:30 | 50 | 73 |
| 00:00 | 50 | 73 |

Edit Current and Future Trading Dates

To update the field values for a trading day, click Edit on the Edit PD/STPASA Availability Interface .

The following screen displays after you edit the data.

UNIT
BROKER1

From 11/10/2021 To 12/10/2021

☐ Display all Submissions

Availability submissions for trading days between 11/10/2021 and 12/10/2021

Table View Graph View

Trading Day 11/10/2021 - Carried forward from [L, offered (11/10/2021 11:22:45)]

| Interval | Upper MW Limit (Maximum capacity 53MW) (-1 means no limit) | Cluster 1 Inverters Available (Maximum of 50, 0) |
|----------|--|---|
| 13:00 | 48 | 73 |
| 13:30 | 12 | 73 |
| 14:00 | 25 | 73 |
| 14:30 | 25 | 73 |
| 15:00 | 25 | 73 |
| 15:30 | 25 | 73 |
| 16:00 | 50 | 73 |
| 16:30 | 50 | 73 |
| 17:00 | 50 | 73 |
| 17:30 | 50 | 73 |
| 18:00 | 50 | 73 |
| 18:30 | 50 | 73 |
| 19:00 | 50 | 73 |
| 19:30 | 50 | 73 |
| 20:00 | 50 | 73 |
| 20:30 | 50 | 73 |
| 21:00 | 50 | 73 |
| 21:30 | 50 | 73 |
| 22:00 | 50 | 73 |
| 22:30 | 50 | 73 |
| 23:00 | 50 | 73 |
| 23:30 | 50 | 73 |
| 00:00 | 50 | 73 |
| 00:30 | 50 | 73 |
| 01:00 | 50 | 73 |
| 01:30 | 50 | 73 |
| 02:00 | 50 | 73 |

Trading Day 12/10/2021 - Carried forward from [L, offered (11/10/2021 11:22:45)]

Duplicate Data Screen

You can use the Duplicate Data Availability screen to copy data from a day to one or more days.

The following is an example of the Duplicate Data Screen.

Duplicate entries to future date(s)

Single day Multiple days

Select date

13 / 05 / 2021

May 2021

| S | M | T | W | T | F | S |
|----|----|----|----|----|----|----|
| 44 | 01 | 02 | 03 | 04 | 05 | 06 |
| 45 | 08 | 09 | 10 | 11 | 12 | 13 |
| 46 | 15 | 16 | 17 | 18 | 19 | 20 |
| 47 | 22 | 23 | 24 | 25 | 26 | 27 |
| 48 | 29 | 30 | 31 | | | |

Duplicate Availability Data

The duplicate option is available for all rows, past, present, or future. When copying from a date, the values copied are the latest edited values in that row as at that point, not the original retrieved values.

To copy data from a day to one or more days, click Duplicate.

The Duplicate entries to future dates screen displays.

The following screen displays after you duplicate the data.

AEMO Markets Portal

Menu Favourites

Home

EMMS -

Market Info +

Settlements +

Offers & Submissions +

SRA +

Intermittent Generation -

Availability -

PD/STPASA Availability

MTPASA Availability

Forecasts

Unit: BROKENH1

From: 11/10/2021 To: 11/10/2021

☐ Display all Submissions

Download Upload Submit

Duplicated successfully. Please submit to save duplicated data.

Availability submissions for trading days between 11/10/2021 and 11/10/2021

Table View Graph View

> Trading Day 11/10/2021 - Carried forward from [], offered [11/10/2021 11:22:45] Edit Duplicate

> Trading Day 12/10/2021 - Duplicated from trading date: [11/10/2021] Edit Duplicate

> Trading Day 13/10/2021 - Duplicated from trading date: [11/10/2021] Edit Duplicate

The following screen displays after you upload the data.

AEMO Markets Portal

Menu Favourites

Home

EMMS -

Market Info +

Settlements +

Offers & Submissions +

SRA +

Intermittent Generation -

Availability -

PD/STPASA Availability

MTPASA Availability

Forecasts

Data Interchange +

MSATS +

Gas Supply Hub +

System Security +

Forecasting and Planning +

DERR +

Gas Bulletin Board +

Unit: MACARTH1

From: 09/11/2021 To: 09/11/2021

☐ Display all Submissions

Download Upload Submit

Availability submissions for trading days between 09/11/2021 and 09/11/2021

Table View Graph View

> Trading Day 09/11/2021 - Uploaded from CSV Edit Duplicate

| Interval | Upper MW Limit (Maximum capacity 420MW) [-1 means no limit] | Cluster 1 Inverters Available (Maximum of 35) ⓘ | Cluster 2 Inverters Available (Maximum of 14) ⓘ |
|----------|---|--|--|
| 04:30 | 50 | 1 | 1 |
| 05:00 | 50 | 1 | 1 |
| 05:30 | 50 | 1 | 1 |
| 06:00 | 400 | 1 | 1 |
| 06:30 | 50 | 1 | 1 |
| 07:00 | 50 | 2 | 2 |
| 07:30 | 50 | 1 | 1 |
| 08:00 | 50 | 1 | 1 |
| 08:30 | 50 | 1 | 1 |
| 09:00 | 50 | 1 | 1 |
| 09:30 | 50 | 1 | 1 |
| 10:00 | 50 | 1 | 1 |
| 10:30 | 50 | 1 | 1 |
| 11:00 | 50 | 1 | 1 |
| 11:30 | 50 | 1 | 1 |
| 12:00 | 48 | 1 | 1 |
| 12:30 | 48 | 1 | 1 |
| 13:00 | 48 | 1 | 1 |
| 13:30 | 50 | 1 | 1 |
| 14:00 | 50 | 1 | 1 |
| 14:30 | 50 | 1 | 1 |

Graph View Screens

The following screens are example screens for different trading periods, such as one day, fourteen days, and one month.

Figure 1– One day trading period

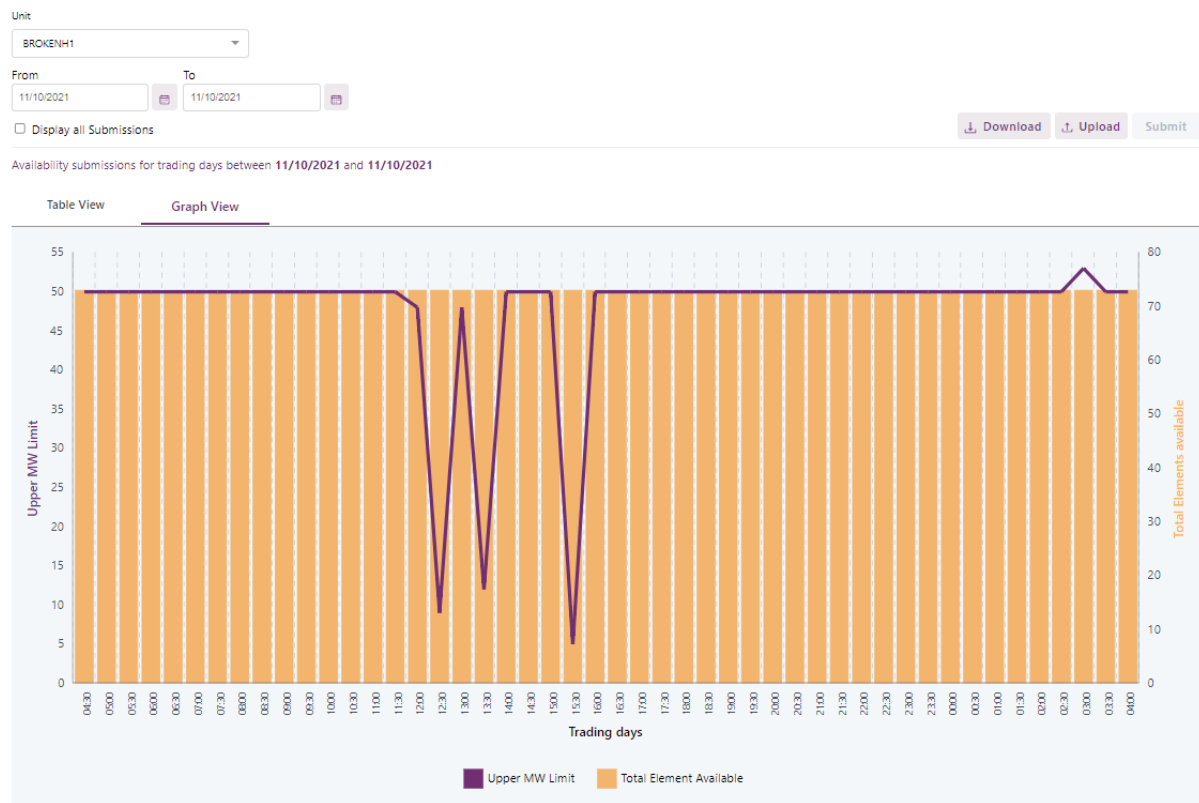


Figure 2 – Edit view with series colour change

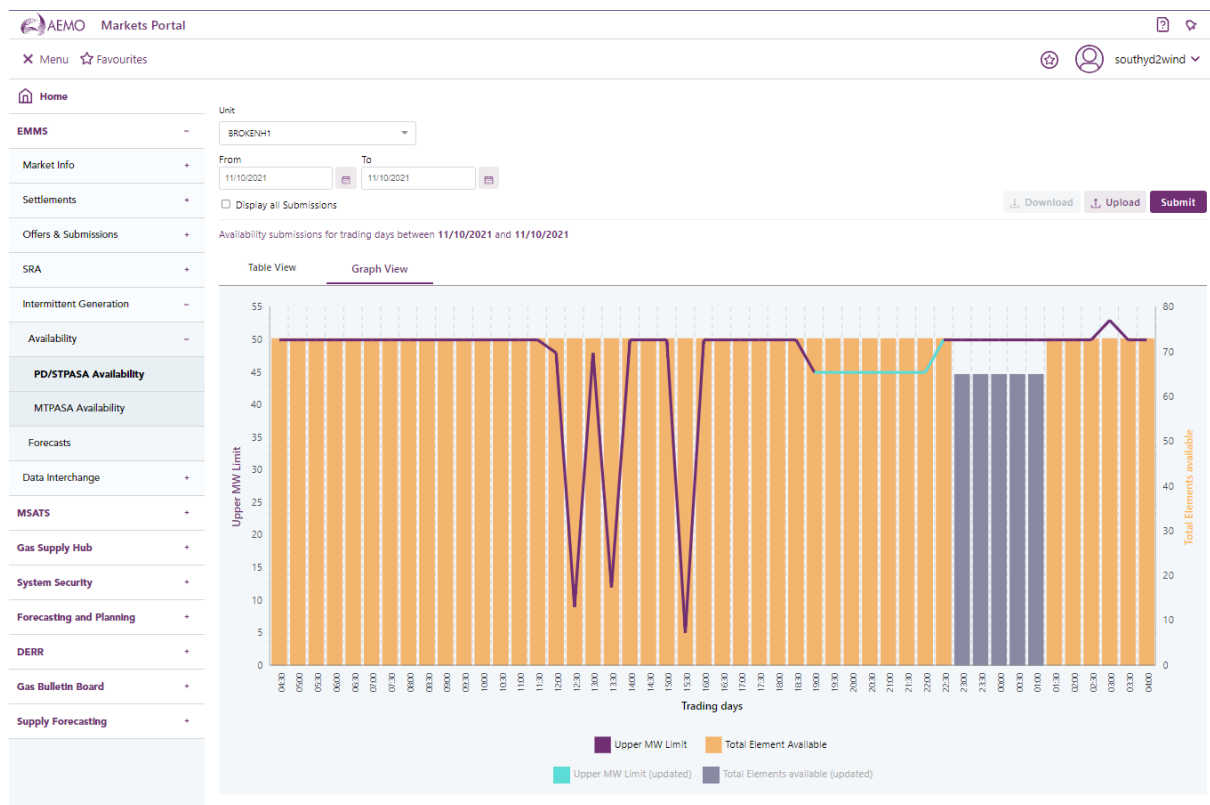


Figure 3 – 14 - day Trading Period

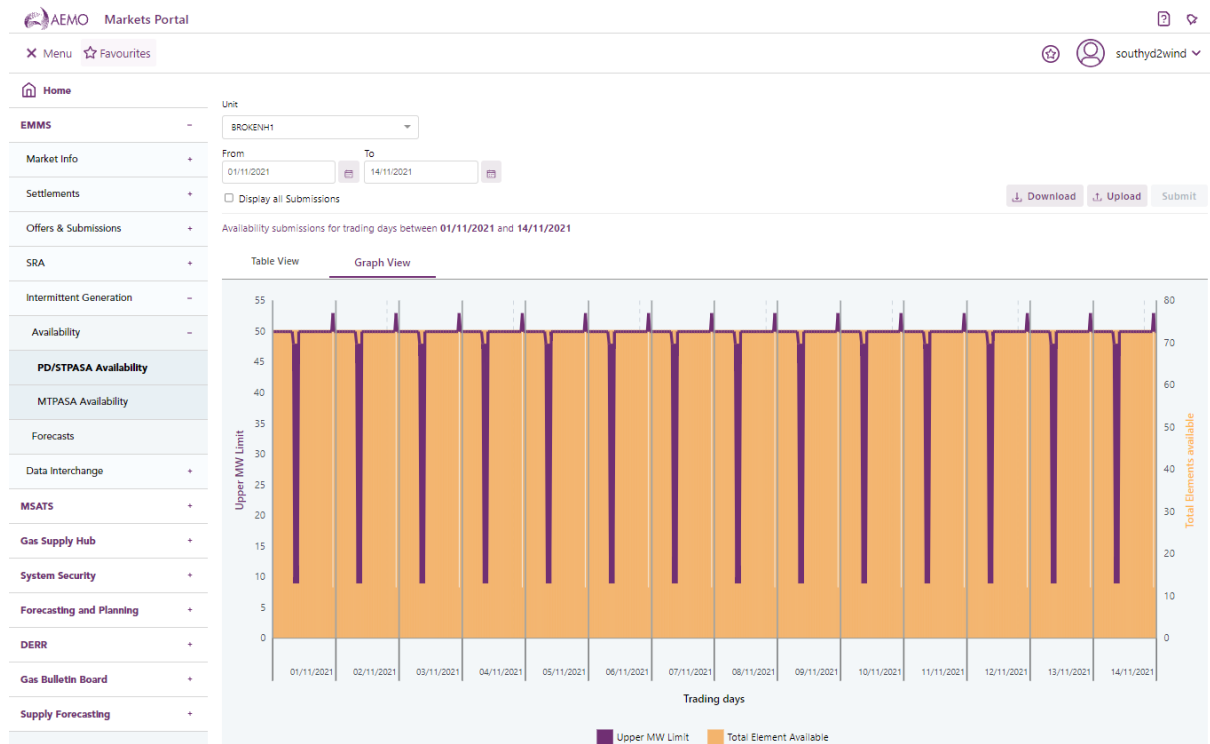
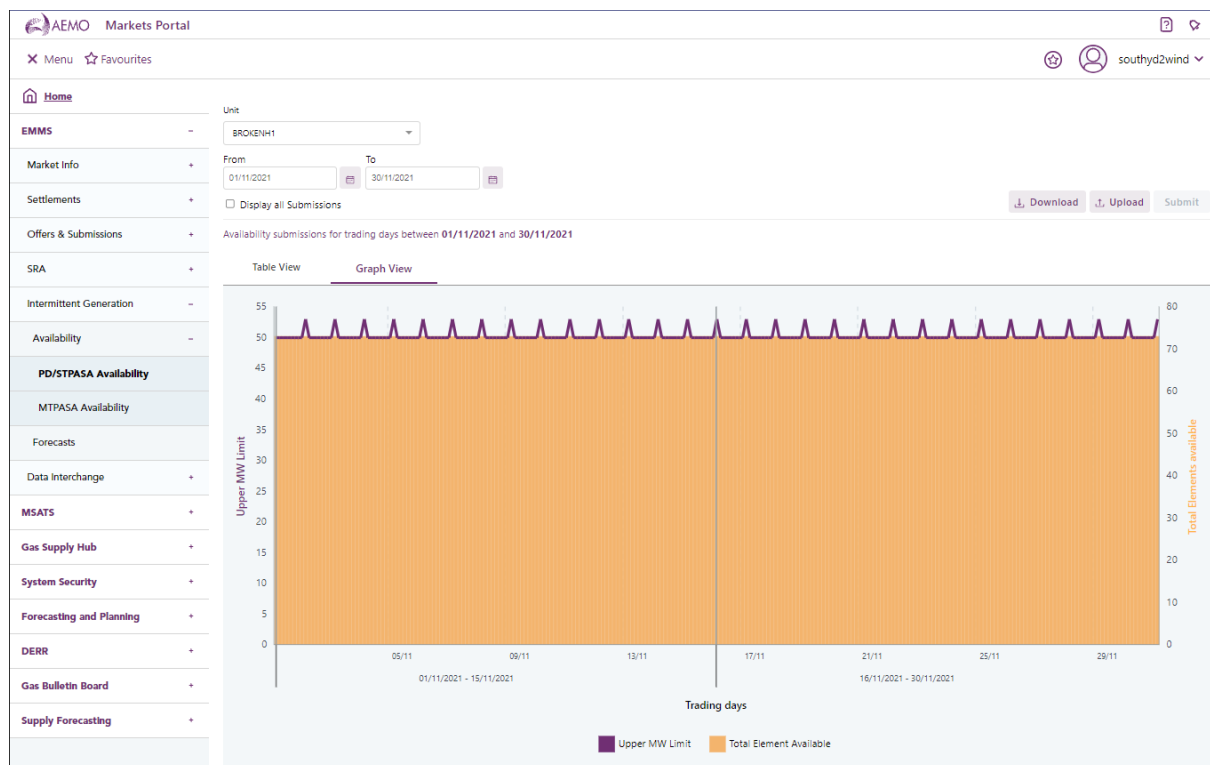


Figure 4 – One month trading period

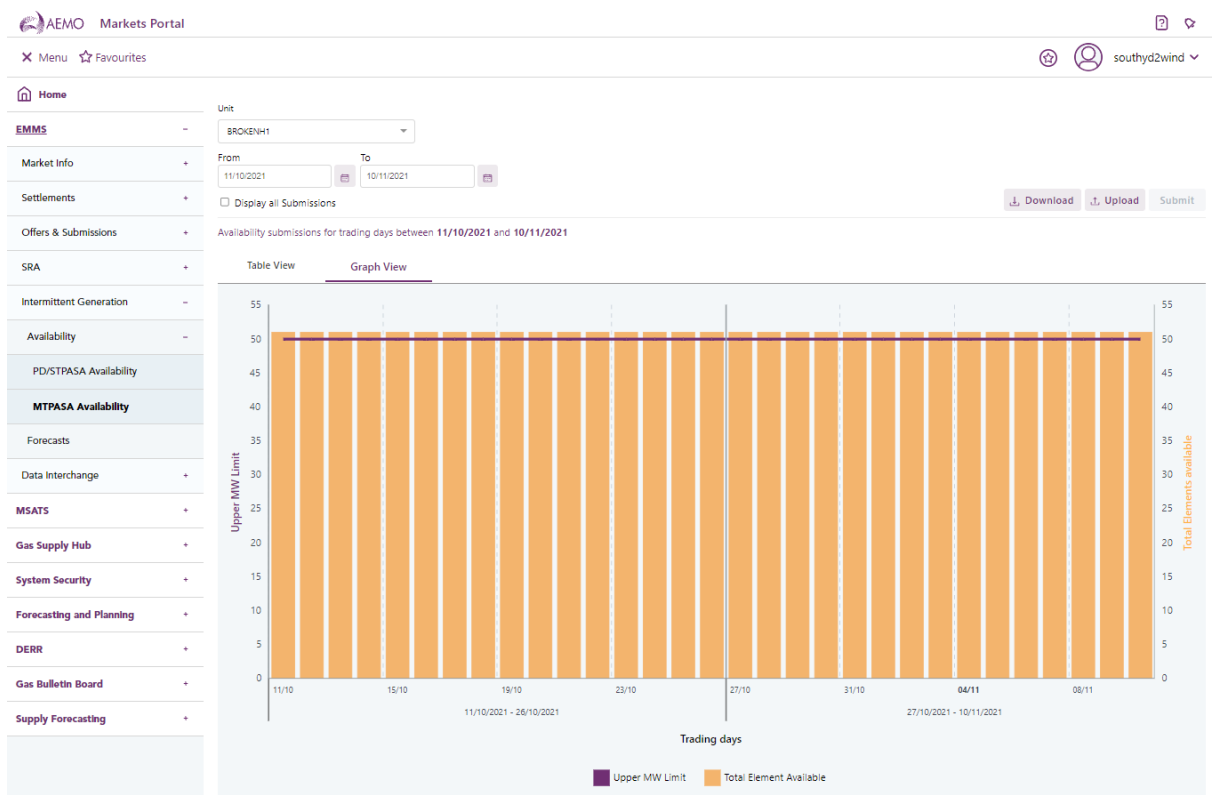


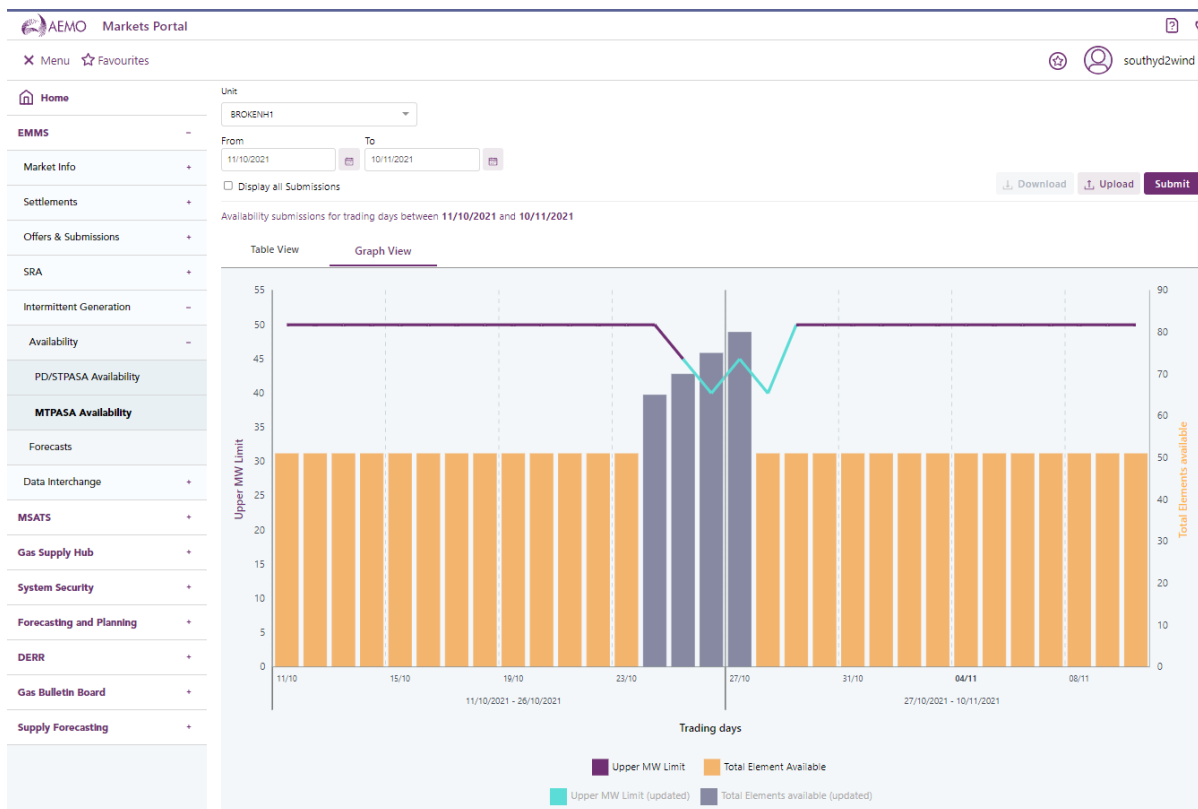
MTPASA Availability Screens

The MTPASA screens have similar functionality as the PD/STAPASA Availability screens, except that the data displays at the date level and not interval level. It also includes the edit, upload CSV and Download CSV functionality like the PD/STAPASA Availability screens.

| Trading date | Upper MW Limit (Maximum capacity 53MW [-1 means no limit]) | Cluster 1 Inverters Available (Maximum of 60) ⓘ |
|--------------|--|--|
| 11/10/2021 | 50 | 51 |
| 12/10/2021 | 50 | 51 |
| 13/10/2021 | 50 | 51 |
| 14/10/2021 | 50 | 51 |
| 15/10/2021 | 50 | 51 |

The following are examples of the Graph views of the MTPASA screens.





Forecast Screens

The Intermittent generation forecast web portal screens are enhanced for dispatch, pre-dispatch (PD), 5-minute Pre-dispatch (5MPD), and short term PASA (STPASA).

The enhancements include:

- A new screen **Forecast** replaces the screen Forecasts -> View.
- The following screens are removed:
 - Forecasts -> Override -> View or Cancel Overrides.
 - Forecasts -> Override -> Enter Overrides.
- The Forecast displays 2 views:
 - Table view: Presents the forecast in tabular form.
 - Graph view – Presents the forecast in a graph.

The Forecast menu displays the dispatch forecast as of current trading date and time. Use the search filter, to view dispatch forecasts or other types of forecasts for any other period.

The search filter options include:

| Field | Description |
|-------------|---|
| Region | The forecast region ID. |
| Fuel source | The type of fuel source: <ul style="list-style-type: none"> - Solar - Wind |
| Unit | The forecast unit ID. |
| From | The From date selects the starting calendar day to show forecasts. Defaults is the current calendar day |
| To | The To date selects the ending calendar day to show forecasts. |
| Type | The types of forecasts are: <ul style="list-style-type: none"> - DS : Dispatch - P5MIN: 5-minute Pre-dispatch - PD: Pre-dispatch - STPASA: Short-term Projected Assessment of System Adequacy |
| Run | Displays the available forecast runs for the selected forecast type. |

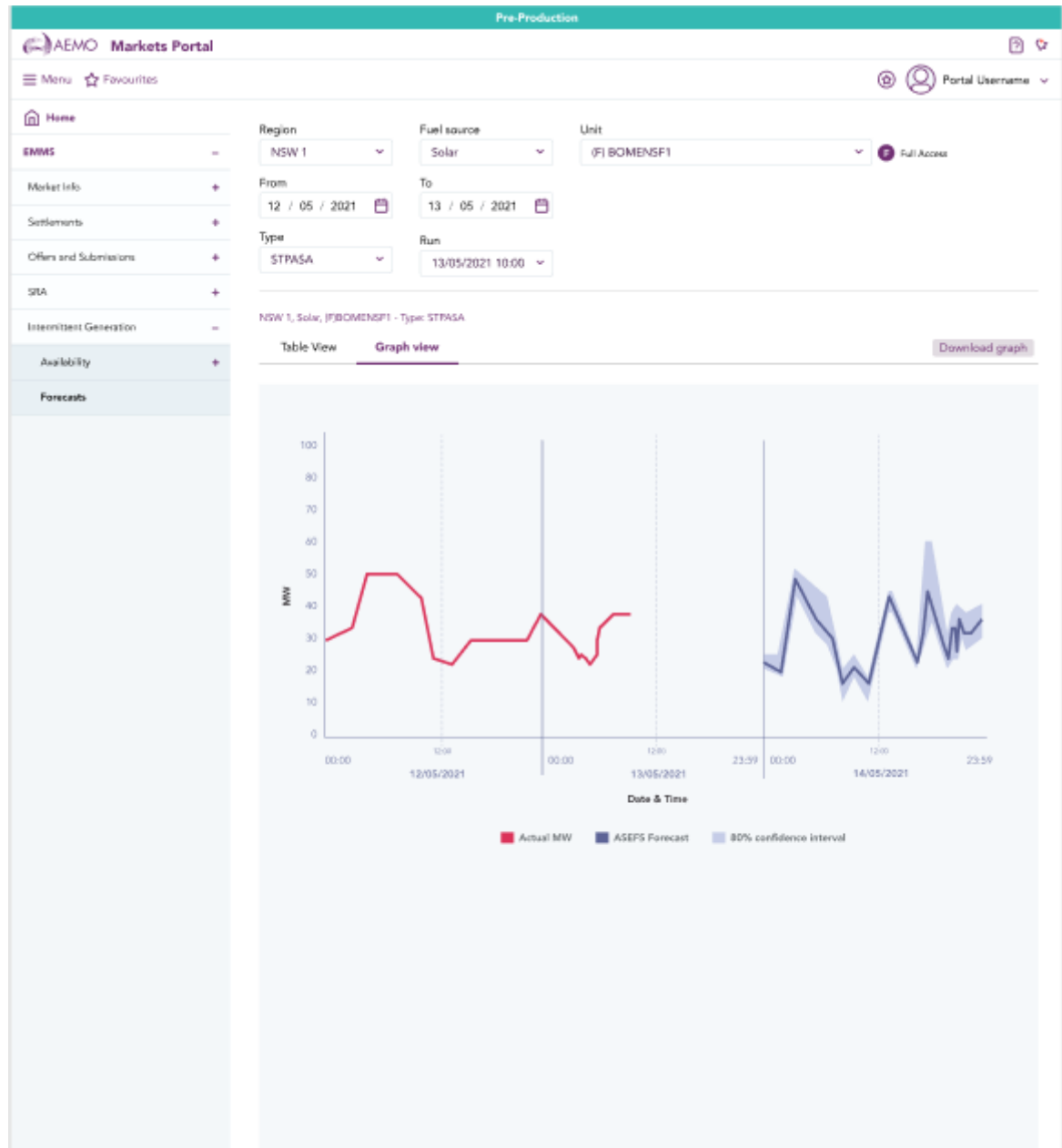
In Pre-production environment, the PD and STPASA forecasts displayed are sourced from availability submissions in the Production EMMS Markets Portal.

Figure 5 – Forecast Table View

The screenshot shows the 'Forecast Table View' interface. It consists of two side-by-side panels, each with a form at the top and a table below. The left panel is for 'DS' (Dispatch) forecasts, and the right panel is for 'P5MIN' (5-minute Pre-dispatch) forecasts. Both panels show a table with columns: Trading Interval, Actual MW, Target MW, Semi Dispatch Cap, Forecast (Pw50), and Forecast Source. The data is for the period 13/10/2021 to 13/10/2021.

| Trading Interval | Actual MW | Target MW | Semi Dispatch Cap | Forecast (Pw50) | Forecast Source |
|------------------|-----------|-----------|-------------------|-----------------|-----------------|
| 13/10/2021 00:00 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:05 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:10 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:15 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:20 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:25 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:30 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:35 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:40 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:45 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:50 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:55 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:00 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:05 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:10 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:15 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:20 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:25 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:30 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:35 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:40 | 0 | 0 | 0 | 0 | ANEMOS |

Figure 6 - Forecast Graph View



The forecast data displays in the form of a list of intervals with the value for the following fields:

- Interval date time
- Forecast Poe10
- Forecast Poe50
- Forecast Poe90
- Forecast source (in Dispatch can be one of Participant Forecast, ASEFS (or AWEFS) Forecast, FCST Forecast, SCADA Persistence)

- Actual MW
- Target MW
- Semi Dispatch Cap
- Not all fields in the above structure are relevant for all forecast types. Depending on the forecast type some fields are always set to null.

| | |
|------------------------|---|
| • Forecast type | • Null field |
| • DS | <ul style="list-style-type: none"> - POE10 - POE90 |
| • P5MIN | <ul style="list-style-type: none"> - Forecast source - POE10 - POE90 |
| • PD | <ul style="list-style-type: none"> - Forecast source |
| • STPASA | <ul style="list-style-type: none"> - Forecast source - Semi Dispatch Cap - Target MW |

Figure 7 – Table view

Region: NSW1 Fuel source: Solar Unit: (f) BROKENH1 Full Access

Select date: 13/10/2021

Type: DS Run: 13/10/2021 11:15

NSW1, Solar, (f) BROKENH1 - Type: DS

Table View Graph View

Displaying data from 13/10/2021 to 13/10/2021 Export to CSV

| Trading Interval | Actual MW | Target MW | Semi Dispatch Cap | Forecast (Poe50) | Forecast Source |
|------------------|-----------|-----------|-------------------|------------------|-----------------|
| 13/10/2021 00:00 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:05 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:10 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:15 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:20 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:25 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:30 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:35 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:40 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:45 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:50 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:55 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:00 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:05 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:10 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:15 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:20 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:25 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:30 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:35 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:40 | 0 | 0 | 0 | 0 | ANEMOS |

Region: NSW1 Fuel source: Solar Unit: (f) BROKENH1 Full Access

Select date: 13/10/2021

Type: P5MIN Run: 13/10/2021 11:45

NSW1, Solar, (f) BROKENH1 - Type: P5MIN

Table View Graph View

Displaying data from 13/10/2021 to 13/10/2021 Export to CSV

| Trading Interval | Actual MW | Target MW | Semi Dispatch Cap | Forecast (Poe50) | Forecast Source |
|------------------|-----------|-----------|-------------------|------------------|-----------------|
| 13/10/2021 00:00 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:05 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:10 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:15 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:20 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:25 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:30 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:35 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:40 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:45 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:50 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 00:55 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:00 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:05 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:10 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:15 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:20 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:25 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:30 | 0 | 0 | 0 | 0 | ANEMOS |
| 13/10/2021 01:35 | 0 | 0 | 0 | 0 | ANEMOS |

2.4 Participant File Server Interface for Availability Submission Replacement

JSON-based web APIs replace the Participant file server interface (aseXML) used to submit availability. The two new APIs introduced are:

- PdStPasaAvailability: API to submit availability in 30-minute intervals for PD and STPASA time frames.
- MtPasaAvailability: API to submit MTPASA availability.

Participants with access to the Availability functionality on Markets Portal also have access to the JSON APIs.

For more details on the APIs, see [Intermittent Generation Availability API](#).

2.5 Participant File Server Interface Retirement

The Participant file server interface (aseXML) to submit availability data will continue to be available for participants during a transition period of 6 months post-production implementation in late November 2021. That is, May 2022.

AEMO strongly urges all participants to migrate to the API interface within this timeframe to ensure a smooth transition.

3. Electricity Data Model

The data model version 5.1 Release includes this project's data model changes. However, the tables will be populated only when the project goes into production in late November 2021.

Participant systems incorrectly configured and not compliant with the Baseline Assumptions in the Data Interchange Framework and Glossary may suffer data loss.

The changes include a new field ELEMENTS_AVAILABLE with an increase in the width from 4 to 5 characters added to the following MMS Data Model tables:

- INTERMITTENT_CLUSTER_AVAIL
- MTPASA_INTERMITTENT_AVAIL

For more details, see IT change and Release management > Release schedules > National Electricity Market (NEM) > Energy Market Management System (EMMS) > EMMS Release Schedule and Technical Specification– October 2021.

4. Implementation

4.1 Transition Requirements

The transitions required for this Release are:

- With the retirement of Intermittent Generation Availability (IGA) File Handler, participants are given 6 months along with the new JSON API to migrate
- Stop using the aseXML file
- Within six months, from 8th December 2021 Production deployment, Participants to start building and deploy APIs by June 2022.
- With the implementation of new APIs, Participants must build their APIs to interface with AEMO API Gateway.
- For more details on the APIs, see the [Intermittent Generation Availability API](#).

4.2 Upgrading Pre-production or Production Data Model Environments

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](#)

4.3 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.

4.4 Risks

- TBA

5. Terms

5.1 Rules Terms

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

| Terms | Terms | Terms |
|----------------------------|---------------------------------|---|
| AEMO | Cash Security | Region |
| AEMO Clearing Account | Confidential Information | Regional reference prices |
| AEMO Markets Portal | Directional interconnector | Registered Participant |
| AEMO Website | Linked Bid | Relevant Quarter |
| Allocated Units | Market Clearing Price | Settlement residue auction |
| APA | Market Participants | Settlement residue committee |
| Auction | Maximum Units | Settlement residue distribution agreement |
| Auction Participant | NEM | SRDA Units |
| Auction Rules | Notional Interconnector | Trading Limit |
| Average cancellation price | Offer Database | |
| Average purchase price | Offer File | |
| Bid File | Offer Period | |
| Cancelled Units | Offer Submission | |
| Cancelled volume | Offered Units | |
| Trading Margin | Offers | |
| Trading Position | Product | |
| Unit Category | Prudential Approved Participant | |
| Units | Prudential Exposure | |

6. 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.

6.1 Data Interchange and Data Model Resources

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.
- Full install: [AEMO's website](#) > Electricity or Gas IT Systems.

Reports

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

Releases

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

Help

- [Data interchange online help](#)