
EMMS Technical Specification – 5MS - Reallocations

1.02 Final December 2019

Release series: EMMS5MSSET10420

Important Notice

PURPOSE & AUDIENCE

This document describes the technical changes required to participant's systems for the Five-Minute and Global Settlement 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, 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 MSATS Web 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 defined in the NER or the Procedure terms defined in the Reallocations Procedures are listed in the Rules and Procedures Terms section.

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VERSION HISTORY

1.02 Minor updates to Data model section. Includes API URLs for 5MS Staging.

1.01 Final version with updates for APIs with example, JSON schemas, changes to the web UI for 5MS.

0.08 Revised draft includes updates to Reallocations systems for API and web updates for 5MS.

0.03 Draft technical specification for Reallocations API.

DOCUMENTS MADE OBSOLETE

The release of this document changes only the version of EMMS Technical Specification – 5MS - Reallocations.

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Contents

1	Introduction	1
1.1	Changes in this version	1
1.2	Overview	1
1.3	Audience	2
1.4	Rule, Procedure, and process changes	2
1.5	Proposed timeline	2
1.6	Approval to change	2
2	Reallocations Systems	3
2.1	Reallocations	3
2.2	5MS Reallocations updates	3
2.3	Reallocations web-based updates.....	4
2.4	Reallocation API updates	4
3	EMMS Markets Portal: Reallocations	5
3.1	Reallocations web interface	5
3.2	Reallocations home	5
3.3	View a reallocation.....	7
3.4	Create a reallocation	8
3.5	Authorise a reallocation.....	11
3.6	Reverse a reallocation.....	13
3.7	Duplicate a reallocation	14
3.8	Expired reallocations	15
4	Reallocations APIs	16
4.1	Access.....	16
4.2	Authentication and authorisation	17
4.3	API format	17
4.4	API naming.....	17
4.5	Reallocations APIs - Summary	18
5	Reallocations API Design	19
5.1	submitReallocation API	19
5.2	authoriseReallocation API	24

5.3	cancelReallocation API	25
5.4	getReallocation API	27
5.5	getReallocations API	30
5.6	getProfileTypes API.....	34
5.7	getReallocationSteps API	35
5.8	getRegions API	37
5.9	getCalendars API	39
5.10	getCalendar API	41
5.11	getParticipants API.....	43
5.12	getAgreementTypes API.....	45
5.13	getMarketPriceCap API	47
5.14	Prudential checks.....	48
5.15	Notifications	48
6	Electricity Data Model 4.30	52
6.1	Data Model changes summary	52
	Package: SETTLEMENT_CONFIG	53
6.2	Modified table: REALLOCATION.....	53
6.3	Participant interfaces changes	53
6.4	File interface changes	54
6.5	Discontinued	54
6.6	Non-functional changes	55
7	Implementation	56
7.1	Transition	56
7.2	Implications	56
7.3	Risks.....	56
7.4	Upgrade options.....	56
7.5	What happens if I do not upgrade?.....	57
8	Needing Help?.....	58
8.1	AEMO's Support Hub.....	58
8.2	Information to provide.....	58
8.3	Feedback.....	58
9	Reallocations JSON Schema	59
9.1	submitReallocation	60

9.2	authoriseReallocation	63
9.3	cancelReallocation	63
Related Resources		65
Rules and Procedures Terms.....		67
Glossary.....		68
Index		71

1 Introduction

This Draft EMMS – Release Schedule and Technical Specification – 5MS Reallocations is a work in progress and is currently in review with the 5MS project team.

The EMMS Release Schedule and Technical Specification – 5MS - Reallocations Release includes changes related to participants' IT systems. The release schedule and technical specification describe the projects planned by AEMO from a participant perspective.

1.1 Changes in this version

Changes in this version include:

1.1.1 Reallocations APIs

Includes the API Gateway URLs for Internet and MarketNet.

1.1.2 Data Model

Table	Change
Modified table: REALLOCATION	INTERVALLENGTH changed from Integer to Number (3,0). CALENDARID comment changed from 'The last changed data of the record' to 'Unique ID of the calendar for which data is requested'.

1.2 Overview

This section details the 5MS changes to Settlements and AEMO's real-time operational systems.

1.2.1 Five Minute Settlement (5MS)

On 28 November 2017, the AEMC made a final rule to alter the settlement period for the wholesale electricity spot market from 30 minutes to five minutes to align with the dispatch period. The changes are effective from 1 July 2021.

The AEMC determined the five-minute settlement provides a better price signal for investment in fast response technologies, such as batteries, new gas peaking generation, and demand response. The alignment of the operational dispatch and financial

For more information, see the 5MS Systems High-Level Impact Assessment (HLIA) document.

settlement periods are expected to lead to more efficient bidding, operational decisions, and investment.

The 5MS updates are divided into different workstreams based on functionality as follows:

- Dispatch and Bidding
- Retail
- Settlements

1.3 Audience

AEMO provides this information as a service targeting business analysts and IT staff in participant organisations.

1.4 Rule, Procedure, and process changes

Rule	Detail
NER Rule	Clause 3.15.11
Reallocation Procedure: Energy and Dollar Offset Reallocations	NER clause 3.15.11A Provides information on how to create reallocation requests and record the reallocation transactions for energy offsets or dollar offsets.
Reallocation Procedure: Swap and Option Offset Reallocations	NER clause 3.15.11A Provides information on how to create reallocation requests and record the reallocation transactions for Swap offsets, Cap offsets, or Floor offsets.

1.5 Proposed timeline

For the schedule and the Program timeline, see the [Five Minute Settlement and Global Settlement](#) page on the AEMO website.

1.6 Approval to change

The changes are continually discussed and updated as a part of the 5MS Systems Working Group and other 5MS Consulting Forum meetings. There is no approval to change required from participant change controllers at this time.

Amendments to the Rules regarding 5-minute settlements are published on the AEMC website: [National Electricity Amendment \(Five-minute settlement rule\) 2017](#).

2 Reallocations Systems

The Settlements system is part of the Electricity Market Management System that depends on information from registration and Dispatch systems and calculates amounts owing to each party, including AEMO.

The Settlements stream includes Settlements, Billing, Invoicing, Reallocations, and Prudentials.

Participants can contact the Support Hub regarding the Reallocation Requests only during business hours.

2.1 Reallocations

A Reallocation Request Service (Reallocations) is a financial arrangement supported by the Rules in which two participants registered as reallocators request AEMO to make matching debits and credits to their settlement position. Reallocations is responsible for calculating the debit and credit amounts based on the contracts.

The structure of a reallocation contract is common across different reallocation agreement types with a set of attributes against each contract and a profile of settlement values for each trading interval in a Settlement Day. This is repeated for each settlement day in the reallocation date range. The reallocation profile always contains a complete set of values for all trading intervals in a day (i.e. 48 or 288).

Participants cannot create reallocation requests between participant IDs owned by the same Company ID.

The attributes in each profile entry include:

- **PeriodId:** An integer indicating the Trading Interval within the day.
- **ReallocationValue:** The Reallocation Profile Value (RPV) for the trading interval. This has different contexts, depending on the Agreement Type.
- **NRP:** The Nominated Reallocation Price or contract strike price in \$/MWh. Used only in Swap, Cap, and Floor Agreement Types.

2.2 5MS Reallocations updates

The following section lists the changes detailed in this technical specification:

- Participants can enter five-minute reallocations six months before 1 July 2021 for start dates post July 2021 onwards.
- Participants can continue to enter 30-minute reallocations from the 1 July 2021 for end dates before July 2021.
- For reallocations spanning 1 July 2021, participants need to submit two separate reallocations requests:

- One that starts on the start date and ends on 30 June 2021 with the interval length of 30-minutes.
- And a second one starting on the 1 July 2021 and ends on the end date with the interval length of five-minutes.
- New APIs available to allow participants to submit, retrieve, authorise, cancel reallocations, along with get reallocations, Calendars, Agreement Types, and Profile Types are available through the API Gateway. For more information, see Reallocations API Design.
- Notifications sent as email or SMS updates through Settlements Direct to participants based on their subscriptions. For more information, see Notifications.
- New web screens are available to support reallocation profiles with 48 or 288 intervals based on the reallocation request dates.

2.3 Reallocations web-based updates

Reallocations web portal include the following changes:

- Updated web portal with new filters and easier options to find specific Reallocations.
- Option to select a region for a specific Public Holiday Calendar.

For more information, see the EMMS Markets Portal: Reallocations chapter.

2.4 Reallocation API updates

The APIs include function calls to:

- Create, authorise, or cancel reallocations
- Search and retrieve reallocations
- Search and retrieve calendars
- Search and retrieve participants, agreement types, profile types and market cap price.

For more information, see the Reallocations API Design chapter.

3 EMMS Markets Portal: Reallocations

3.1 Reallocations web interface

The new web reallocations interface supports five-minute intervals for reallocation dates starting on July 1, 2021. To access Reallocations from the AEMO Markets Portal, navigate to **MMS > Settlements > Reallocations**.

The screenshots available in this chapter are examples only and can differ from the final version on the Markets Portal.

3.2 Reallocations home

The reallocations home page allows participants to create new reallocations, upload an existing reallocation from a csv file to create a new reallocation request, export a csv file of an existing reallocation request. You can also see a list of **Public Holidays** for all regions available for each calendar.

The existing reallocations are categorised based on the login details to show the last changed reallocations pertaining to a submitting party and counterparty or any other filter categories selected.

By default, the page loads with the list of Reallocations **Awaiting your Authorisation**. There are multiple filters to allow participants to access specific reallocations along with new filters for **About to Expire** and **Creator**.

Other updates include the following:

- All reallocations are listed under one tab instead of being separated by the reallocation status.
- Participants can access all reallocations past, present and future in one place.
- Improved visualisation and statistics for different status.
- Pagination to allow easy viewing of the long list of reallocations.
- Search functionality to find a required reallocation easily.

Previously, the side navigation listed the different filters allowing you to view Reallocations in specific states. Now, the landing page filters reallocations based on their current status:

- Reallocations – a list of all reallocations.
- Awaiting your authorisation – list of reallocations for the logged-in party to authorise.
- About to expire – reallocations about to expire

- Awaiting counterparty – reallocations which the counterparty needs to authorise (these are displayed to the submitting party)
- Authorised – all reallocations which have been authorised by the counterparty.
- Expired – reallocations that have not been authorised by the ex post due date.
- Cancelled or Rejected – reallocations that either parties have declined.

The screenshot displays the 'Reallocation' page in the EMMS Markets Portal. At the top, there is a search bar and buttons for 'Create reallocation', 'Upload', and 'Public holidays'. A summary bar shows counts for various reallocation statuses: 38 Reallocations, 1 Awaiting your authorisation, 3 About to expire, 5 Awaiting counterparty, 30 Authorised, 1 Expired, and 1 Cancelled/Rejected. Below this, a table lists 10 reallocation records with the following columns: Reallocation ID, Counterparty, Last changed, Start date, End date, Ex Post due date, Region, Profile type, Agreement, and Actions. The records include IDs such as 20170803.RS022, 20170803.RS123, 20170803.RS657, 20170803.RS762, 20170803.RS987, and 20170803.RS812, with actions like 'Authorise', 'Reverse', and 'Duplicate'.

Reallocation ID	Counterparty	Last changed	Start date	End date	Ex Post due date	Region	Profile type	Agreement	Actions
20170803.RS022 Creator: [redacted]	[redacted]	9/12/2017 03:15	9/12/2017	9/12/2017	29/12/2017	NSW	Business	\$	Authorise
20170803.RS123 Creator: [redacted]	[redacted]	9/12/2017 03:15	9/12/2017	9/12/2017	29/12/2017	NSW	Business	\$	Authorise
20170803.RS657 Creator: [redacted]	[redacted]	9/12/2017 03:15	9/12/2017	9/12/2017	9/12/2017	NSW	Business	\$	
20170803.RS762 Creator: [redacted]	[redacted]	9/12/2017 03:15	9/12/2017	9/12/2017	9/12/2017	NSW	Business	MWh	Authorise
20170803.RS987 Creator: [redacted]	[redacted]	9/12/2017 03:15	9/12/2017	9/12/2017	9/12/2017	NSW	Business	\$	Reverse
20170803.RS812 Creator: [redacted]	[redacted]	9/12/2017 03:15	9/12/2017	9/12/2017	9/12/2017	NSW	Business	MWh	Reverse

For a logged-in participant user, it displays the following details for each reallocation:

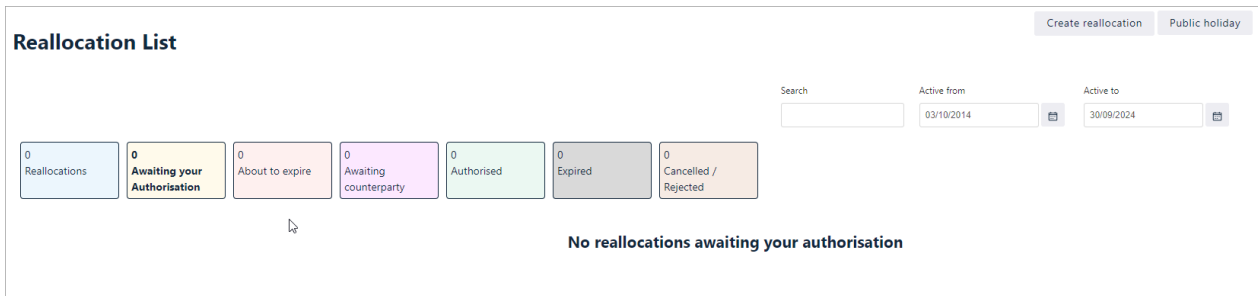
- Reallocation ID
- Counterparty
- Last Changed
- Start and End dates
- Ex post due date
- Region
- Day type
- Agreement type
- Actions – quick options to Authorise, Reverse or Duplicate a reallocation based on the current status.

Participants can also use the following filters:

- Counterparty – allows a user to filter reallocations pertaining to specific counterparties.
- Creator – includes the creator's participant id and the counterparty id.
- Region – allows a user to filter based on region.

- Active period – a range of dates that filters the list of Reallocations displayed. By default, this is set to 5 years before and after the current date.
- More – includes filters for day type, agreement type and period.

If you are a new participant registered for reallocations and do not have any reallocations as either the submitting or counterparty, you see the following screen:



You can **Create** or **Upload** the reallocation details to create a new reallocations request. Depending on the start date, you can also download and use the template for a 30-minute or five-minute csv file for Reallocation requests before or after July 1, 2021.

3.3 View a reallocation

You can view the details of a reallocation request by selecting a reallocation on the landing page. You can view the details in the grid format or the condensed format. The condensed format combines intervals with the same values for energy and price into a single row.

The options displayed on the Reallocations details page change based on the current state of the reallocation.

Based on the current status of the reallocation, the following buttons are displayed:

- Awaiting your authorisation: options available are **Authorise**, **Reject**, **Export** or **Duplicate**.
- Awaiting counterparty: options available are **Cancel reallocation**, **Export** or **Duplicate**.
- Authorised: options available are **Export**, **Reverse** or **Duplicate**.
- Cancelled/Rejected: options available are **Export** and **Duplicate**.

In the following image, the reallocation is awaiting the counterparty authorisation and displays options to **Authorise**, **Reject**, **Export** or **Duplicate**.

Reallocation details [redacted].RS001

● Awaiting your authorisation
 ● Reallocation expiring on 9 Aug 2019

Authorise
Reject
⋮

Counterparty	[redacted]	Your role	Credit
Creator	[redacted]	Region	Queensland(QLD)
Agreement type	SWAP	Day type	Business days
Public holiday calendar	Calendar 1		

Start date: 20/07/2019 End date: 22/07/2019
 Ex Post due date: 09/08/2019 Ex Ante due date: 30/07/2019
 Last changed: 29/08/2019 22:50

Total MWh: [redacted] MWh Total Nominated price: \$ [redacted]

Your reference: [redacted]

120 Rows | [grid icon]

Trading Interval	MWh	Strike price
00:05	100	100.00
00:10 - 01:20	100	50.00
01:25 - 04:00	10	0
04:05 - 17:15	0	0
17:20 - 17:45	100	100.00

The Reallocations details page displays the current status of a reallocation and the expiry date under the reallocation ID.

3.4 Create a reallocation

To create a new reallocation, follow these steps:

1. Click **Create Reallocation** from the Reallocations landing page.
2. In the **Create Reallocation** window, select your role – **Credit/Debit**. By default, **Credit** is selected.
3. Select the **Counterparty** from the dropdown menu. You can also search for the counterparty.
4. Select the **Start date** and the **End date** for the reallocations period. Based on the start and end dates, the trading interval displays either five-minute or 30-minute intervals.
5. Select **Region**, **Agreement type**, **Day type**, and **Public holiday calendar** from the dropdown menus.

The calendar selected automatically takes the region's holidays.

6. Include an optional **Reference** id for the reallocation.

This allows you to quickly find your reallocation in the future.

7. Enter the values of the energy/dollar based on the **Agreement type**.
8. Click **Create** to create a reallocation.

Before submitting a new reallocation, you need to confirm that you have an underlying contract with AEMO for reallocations.

At this stage, AEMO runs a prudential check on the submitting party and generates an error message if there are any discrepancies with prudential limits.

Create reallocation

Create
Discard
Upload

Your role: Credit Debit Counterparty: Select

Start date: End date: Ex Ante due date: Ex Post due date:

Region: QLD Agreement type: MWh

Day type: Flat Public holiday calendar: Calendar 1

Reference (optional):

Quick-fill
Preview

Total Energy: 2000 MWh

Trading Interval

Minute → Hour ↓	:00	:05	:10	:15	:20	:25	:30	:35	:40	:45	:50	:55
00:		0	0	0	0	0	0	0	0	0	0	0
01:	0	0	0	0	0	0	0	0	0	0	0	0
02:	0	0	0	0	0	0	0	0	0	0	0	0
03:	0	0	0	0	0	0	0	0	0	0	0	0
04:	0	0	0	0	0	0	0	0	0	0	0	0

The **Quick-fill** option allows you to select specific time periods and enter the nominated prices. You have the option to select the entire day or custom start and end trading intervals.

You can also **Preview** the final values before creating the reallocation. The **Preview** reallocation screen displays a collapsed view banding together rows with the same values for multiple trading intervals together.

3.4.1 Discard creation

If you do not want to proceed with creating a reallocation, click the **Discard** button to return to the Reallocations home page.

3.4.2 Upload a reallocation

You can create a new reallocation by uploading the data values from a csv file using the **Upload** button on the **Create Reallocation** screen.

You can use the **Download template** and use this file to add your csv values.

The **Upload** option only allows you to upload data to the cells. You must use the web browser to add the reallocation details like role, counterparty, dates, day type, region, agreement and so on.

3.4.3 Cancel a reallocation

As the submitting party, you can cancel a reallocation before it is authorised by using the **Cancel reallocation** button.

Reallocation details 2019 [redacted] .RS001 Cancel reallocation Export ⋮

Awaiting counterparty

Counterparty	[redacted]	Your role	Credit
Creator	[redacted]	Region	Queensland(QLD)
Agreement type	SWAP	Profile	Business days
Public holiday calendar	Calendar 1		
Start date	20/07/2019	End date	22/07/2019
Ex Post due date	09/08/2019	Ex Ante due date	30/07/2019
Last changed	29/08/2019 22:50		
Total MWh	[redacted] MWh	Total Nominated price	[redacted]
Reference	[redacted]		

120 Rows | [grid icon]

Trading Interval	MWh	Strike price
00:05	100	100.00
00:10 - 01:20	100	50.00
01:25 - 04:00	10	0
04:05 - 17:15	0	0
17:20 - 17:45	100	100.00

There is a pop-up window where you must confirm you want to cancel a reallocation by clicking **Yes, cancel**.

Reallocations in the **Cancelled** state are listed under the **Cancelled/Rejected** filter. You can select a reallocation from this list to **Duplicate** and create a new reallocation by modifying the details as needed.

3.5 Authorise a reallocation

As a counterparty in a reallocation, you can start the authorise workflow from the landing page by clicking on the **Authorise** option in the **Actions** column.

1. In the **Authorise reallocation <ReallocationID>** page, confirm the reallocation details - **Counterparty**, **Total MWh**, and **Agreement type**.
2. Click the **Authorise** button.

At this stage, AEMO runs a prudential check on both parties and displays an error message in case of any discrepancies.

If you do not want to proceed with authorising the reallocation and want to come back to it later, click **Dismiss** to return to the landing page without saving any changes to the request.

Authorise reallocation [REDACTED].RS001 Authorise Dismiss

To authorise this reallocation, please confirm the correct values below

Counterparty ✓

Total MWh ✓

Agreement type \$ (Dollar) MWh (Energy) SWAP x

Your reference (optional)

Reallocation details

Counterparty	[REDACTED]	Your role	Credit
Creator	[REDACTED]	Region	Queensland(QLD)
Agreement type	SWAP	Day type	Business days
Public holiday calendar	National		
Start date	20/07/2019	End date	22/07/2019
Ex Post due date	09/08/2019	Ex Ante due date	30/07/2019
Last changed	29/08/2019 22:50		
Total MWh	[REDACTED] MWh	Total Nominated price	\$ [REDACTED]
Your reference	[REDACTED]	Countyerpaty reference	[REDACTED]

Trading Interval	MWh	Strike price
00:05	100	100.00

You can use the **Awaiting your authorisation** filter option on the landing page to see a list of all reallocation requests that you must authorise.

1. Click on a reallocation from the list to see all the details before authorising the reallocation.
2. Click on the **Authorise** button and confirm some of the details (as shown in the screen above).
3. Click **Authorise** again to confirm and complete the authorisation workflow.

Reallocation details 2019-08-01 .RS001

● Awaiting your authorisation
● Reallocation expiring on 9 Aug 2019

Authorise
Reject
⋮

Counterparty		Your role	Credit
Creator		Region	Queensland(QLD)
Agreement type	SWAP	Profile	Business days
Public holiday calendar	National		
Start date	20/07/2019	End date	22/07/2019
Ex Post due date	09/08/2019	Ex Ante due date	30/07/2019
Last changed	29/08/2019 22:50		
Total MWh	 MWh	Total Nominated price	
Reference			

120 Rows |

Trading Interval	MWh	Strike price
00:05	100	100.00
00:10 - 01:20	100	50.00
01:25 - 04:00	10	0
04:05 - 17:15	0	0
17:20 - 17:45	100	100.00

3.5.1 Reject a reallocation

As the counterparty, you can reject a reallocation if you do not agree with any details the submitting party has included in the reallocation request.

1. To reject a reallocation, click the **Reject** button on the Reallocation details page.
2. Confirm by selecting the checkbox and clicking the **Yes, reject** button.

You cannot authorise a rejected reallocation. Reallocations in the **Rejected** state are listed under the **Cancelled/Rejected** filter. You can select a reallocation from this list to **Duplicate** and create a new reallocation by modifying the details as needed.

3.6 Reverse a reallocation

An authorised reallocation cannot be cancelled. If you want to cancel a reallocation at this stage, you need to create a new reallocation with reverse values of the original.

1. Click on the **Reverse** button in the original authorised reallocation to create a new reallocation with values negative of the original. For example, a value of \$100 is replaced by -\$100 and so on in the new reallocation request.

If the **Agreement type** is Dollar or Energy, all values are negative of the original request. For a **SWAP**, **CAP** or **FLOOR** type agreement, only the energy values are negated, and the dollar values are retained as is.

2. Click on **Create** to create a new reverse reallocation.

Create reallocation

Create
Discard
Upload
⋮

Your role
Credit Debit

Counterparty

Start date: 20 July 2019 End date: 22 July 2019

Region: QLD Agreement type: SWAP

Profile: Business days Public holiday calendar: National

Reference (optional)

Quick-fill
Preview

Total energy: - MWh Total Spot price: - \$

MWh (Energy) Spot price	Trading Interval	:00	:05	:10	:15	:20	:25	:30	:35	:40	:45	:50	:55
	00:		-100	-100	-100	-100	-100	-100	-100	-100	-100	-100	-100
	01:	-100	-100	-100	-100	-100	0	0	0	0	0	0	0
	02:	0	0	0	0	0	0	0	0	0	0	0	0
	03:	0	0	0	0	0	0	0	0	0	0	0	0

3.7 Duplicate a reallocation

On the **Create reallocation** page:

1. Click the **Duplicate** button to create a Reallocation with the same values as the original Reallocation.
2. In the **Create Reallocation** page, modify any values that you want to change.
3. Click **Create** and confirm underlying contract to create a new Reallocation.

Create reallocation

Create
Discard
Upload
⋮

Your role
 Credit Debit

Counterparty

Start date End date

Region

Agreement type

Profile

Public holiday calendar

Reference (optional)

Quick-fill
Preview

Total energy: 5000 MWh Total Spot price: \$ 4000

MWh (Energy) Spot price	Trading Interval	:00	:05	:10	:15	:20	:25	:30	:35	:40	:45	:50	:55
00:			100	100	100	100	100	100	100	100	100	100	100
01:		100	100	100	100	100	0	0	0	0	0	0	0
02:		0	0	0	0	0	0	0	0	0	0	0	0
03:		0	0	0	0	0	0	0	0	0	0	0	0
04:		0	0	0	0	0	0	0	0	0	0	0	0

3.8 Expired reallocations

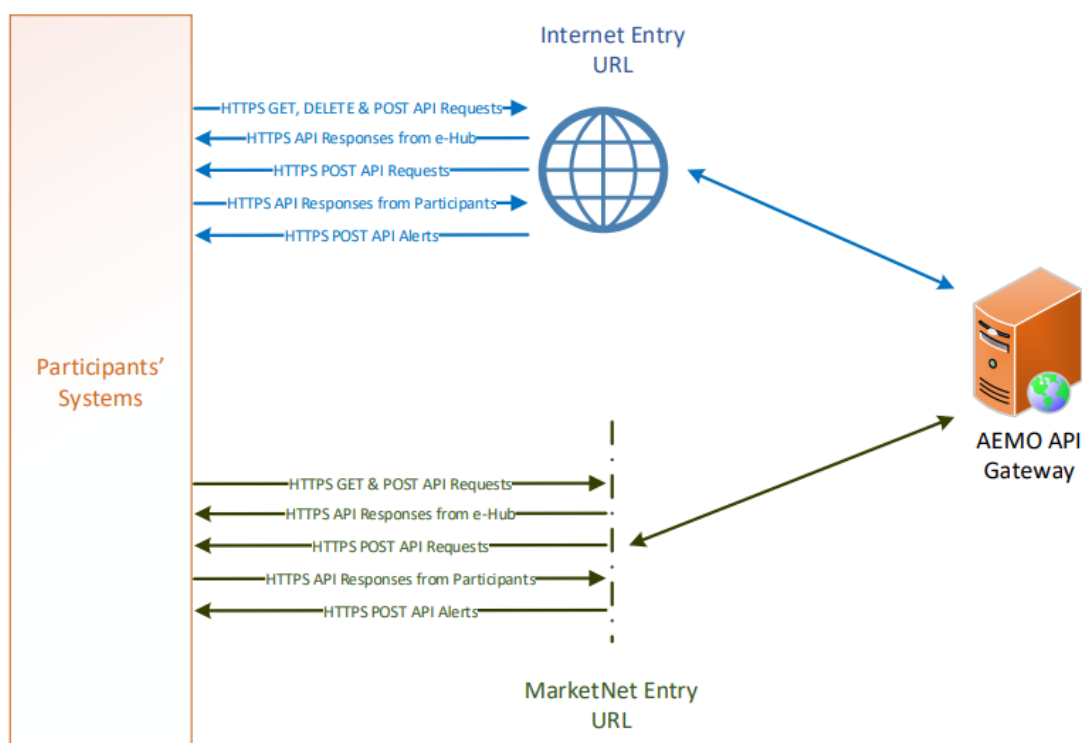
A reallocation status changes to **EXPIRED** when it is currently in the **SUBMIT** state and the ex post due date is less than the current date. You can use the **Duplicate** option to create a new reallocation and modify the details as needed.

4 Reallocations APIs

For information on accessing the APIs, see [Guide to AEMO’s APIs](#).

4.1 Access

AEMO’s Reallocations APIs are accessible via MarketNet and the Internet.



API details, including Swagger files, are available via AEMO’s API Portal. For more information about e-Hub APIs, see [Guide to AEMO’s e-Hub APIs](#).

The following AEMO API Gateways are available:

Table 1 API Gateway Addresses

Environment	Internet Address	MarketNet Address
5MS Staging	https://partner.api.5msstaging.aemo.com.au/	https://apis.5msstaging.marketnet.net.au:9319/
Pre-production	https://apiportal.preprod.aemo.com.au	https://apiportal.preprod.marketnet.net.au
Production	https://apiportal.prod.aemo.com.au	https://apiportal.prod.marketnet.net.au

More information is available in [Guide to AEMO's APIs](#).

4.2 Authentication and authorisation

API connections use SSL certificates to secure the transport layer such as encrypted communication and secure interactions between participant and AEMO's systems. AEMO issues the SSL certificates to participants on request.

The following changes are under consultation and not definite at this stage.

API calls are authorised by Basic HTTP authentication using a username and password assigned by the company's Participant Administrator.

For more information about user rights creating new Participant Users and assigning rights, see [Guide to User Rights Management \(URM\)](#).

For details on the steps to obtain a certificate, see [Guide to AEMO's APIs](#).

4.3 API format

API URLs are in the following format:

```
https://<host>/ws/<business_function>/<APIversion>/<resource>?querystring
parameters
```

For example:

```
https://apis.prod.aemo.com.au:9319/ws/NEMWholesale/reallocations/v1/submitReallocation
```

Table 2 API Definition

Parameter	Description
<protocol>	HTTPS
<host>	Names the server hosting the service or an external proxy Internet web service host: apis.prod.aemo.com.au:9319 MarketNet web service host: apis.prod.marketnet.net.au:9319
<Business_function>	API Name - The AEMO system providing the services e.g. GeneratorRecall
<verb> <resource>	Entities of a Business Function e.g. /submitReallocation
?querystring parameters	Query string parameters for GET method

4.4 API naming

The 5MS Reallocations APIs follow a verb and noun naming convention.

4.5 Reallocations APIs - Summary

Function Name	Description
submitReallocation	Create a new reallocation and set status to Submit.
authoriseReallocation	As a reallocation counterparty, authorise a submitted reallocation.
cancelReallocation	Cancel or reject a reallocation.
getReallocations	Retrieve a list of reallocations matching the specified criteria.
getReallocation	Retrieve details of a single reallocation.
getAgreementTypes	Retrieve a list of available reallocation agreement types.
getCalendars	Retrieve a list of supported calendars matching the specified criteria.
getCalendar	Retrieve the list of public holidays for a single calendar.
getParticipants	Retrieve a list of NEM participants.
getProfileTypes	Retrieve a list of available reallocation profile types.
getReallocationSteps	Retrieve a list of available reallocation step IDs.
getRegions	Retrieve a list of NEM regions.
getMarketPriceCap	Retrieve the NEM Market Price Cap at a given effective date.

5 Reallocations API Design

The following chapter lists the new Reallocations APIs, the validation rules, and the request and response structure for the Reallocations APIs.

5.1 submitReallocation API

The submitReallocation API creates a reallocation and sets the status to SUBMIT. The API creates an ID in the format "<YYYYMMDD>.RS<NNNN>" where:

- <YYYYMMDD> is the current system date
- <RNNN> is the consistently-increasing sequence number for reallocations created on the specific date including leading zeros.

For example, the first reallocation submitted on April 24, 2019, would be 20190424.RS0001, and so on.

Participants cannot submit a Reallocations request for 30-minute data for dates post July 2021 after the 5MS Production date.

5.1.1 Validation Rules

The submitted reallocation must pass the following validation:

- The request must pass the JSON schema validation for the request type.
- The company IDs associated with the submitting participant and the counterparty must be different, meaning a participant cannot reallocate between the participants within their company profile.
- A prudential run must be available with a prudential date equal to the current day
- The submitting participant must pass the prudential check.
- The submitting participant must be registered for reallocations.
- The agreement type must be a valid Reallocation Agreement Type.
- The profile type must be a valid Reallocation Profile Type.
- The credit/debit indicator must be a valid Reallocation Credit or Debit indicator.
- The region identifier must be a valid NEM region identifier for all days between the start and end dates (inclusive) of the reallocation.
- The number of trading intervals in the reallocation profile must be equal to $(1440 / \text{intervalLength})$, where intervalLength is either 5-minutes or 30-minutes depending on the date of the Reallocation request.

For more information on the JSON schema for the APIs, see [Reallocations JSON Schema](#).

- The period identifiers in the reallocation profile must start at 1 and consistently increase.
- The trading interval in the reallocation must be equal to the settlement interval length for all days between the start and end dates (inclusive) of the reallocation.
- The start date of the reallocation must be less than or equal to the end date of the reallocation.
- The start date of the reallocation must be greater than or equal to the start date cut-off (see Prudential checks).
- The Calendar ID must be a valid calendar.

If any of these validation rules fail, an error (422) response is returned. For a failed validation, the example response is as follows:

```
{
  "transactionId": "e7d0b3db-de42-4f38-9e26-b60bd6114367",
  "data": {
    "reallocationId": null,
    "reallocationSuccessful": false
  },
  "errors": [
    {
      "code": "ERROR_SUBMIT_REALLOCATION",
      "title": "INVALID_INDICATOR",
      "detail": "Request does not have a valid credit/debit indicator.",
      "source": null
    }
  ]
}
```

The title and detail changes based on which validation fails.

5.1.2 API request/response structure

API	submitReallocation
Method	POST
URL	/NEMWholesale/reallocations/v1/submitReallocation
Header	Standard request header attributes to include: Authorisation: Basic Content-Encoding: Should be one of [gzip, deflate, compress] Accept-Encoding: Should be one or more of [gzip, deflate, compress]
Authorisation	Participant specific

API	submitReallocation	
Parameters	Name	Description
	startDate	First day of the reallocation agreement
	endDate	Last day of the reallocation agreement
	submittingParticipantId	Unique identifier of the participant submitting the reallocation request
	counterpartyParticipantId	Unique identifier of the counterparty participant in the reallocation request
	agreementType	\$ (price), MWh (Quantity), SWAP, CAP, or FLOOR.
	profileTypeId	The day type profile for which the reallocation applies over the start and end date range. Valid entries are BUSINESS, NON-BUSINESS, or FLAT.
	regionId	Region identifier, being the spot price reference node for this reallocation.
	creditDebitIndicator	Denotes that the submitting party is the Credit or Debit party with a value of "C" or "D" respectively.
	intervalLength	Either 30 or 5
	submittingParticipantReference	Optional reference detail for the initiating party
	periodId	Period identifier (Reallocation occurring before 5MS implementation - 1...48) (Reallocation occurring after 5MS implementation -1...288)
	reallocationValue	Reallocation value in \$ if the agreement type is \$ or MWh of the agreement type
nrp	Nominated Reallocations Price, only used in agreement types of SWAP, CAP and FLOOR, being the contract strike price in \$/MWh	

API	submitReallocation
Request Content	<p>Content Body:</p> <pre> { "reallocation": { "startDate": [datetime], "endDate": [datetime], "submittingParticipantId": [string], "counterpartyParticipantId": [string], "agreementTypeId": [string], "profileTypeId": [string], "regionId": [string], "creditDebitIndicator": [string], "intervalLength": [integer], "submittingParticipantReference": [string], "reallocationProfile": [{ "periodId": [integer], "reallocationValue": [decimal], "nrp": [decimal, optional] }] } } </pre>
Success response	<p>Content Body:</p> <pre> { "transactionId": [string] "data": { "reallocationId": [string] } } </pre>

In the Request content, the submitting and counterparty participant IDs are mapped to the credit and debit participant IDs as follows:

creditDebitIndicator	creditParticipantId	debitParticipantId
C	submittingParticipantId	counterpartyParticipantId
D	counterpartyParticipantId	submittingParticipantId

Example request

```

POST /NEMWholesale/reallocations/v1/submitReallocation
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
{
  "reallocation": {
    "startDate": "2000-12-31T00:00:00",
    "endDate": "2020-12-31T00:00:00",
    "submittingParticipantId": "<PID1>",
    "counterPartyParticipantId": "<PID2>",
    "agreementTypeId": "MWh",
    "profileTypeId": "FLAT",
    "regionId": "VIC1",
    "creditDebitIndicator": "C",
    "intervalLength": 5,
    "submittingParticipantReference": "<SUBMITTINGPARTY_REFERENCE>",
    "calendarId": "SETT_REGIONAL",
    "reallocationProfile": [
      {
        "periodId": 1,
        "reallocationValue": 0,
        "nrp": 12
      },
      {
        "periodId": 2,
        "reallocationValue": 0,
        "nrp": 0
      },
      .....
      {
        "periodId": 287,
        "reallocationValue": 0,
        "nrp": 0
      },
      {
        "periodId": 288,
        "reallocationValue": 0,
        "nrp": 0
      }
    ]
  }
}

```

Example response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip

```

```

{
  "transactionId": "0598cd72-2a81-4cf5-9809-2a7c81d28610",
  "data": {
    "reallocationId": "20190820.RS001",
    "reallocationSuccessful": true,
    "responseAppStatus": "Successful",
    "messageList": []
  },
  "errors": []
}

```

5.2 authoriseReallocation API

The authoriseReallocation API sets the state of the reallocation to AUTHORISE, signalling that both parties have agreed to the reallocation.

5.2.1 Validation Rules

- The request must pass JSON schema validation for the request type.
- The reallocationId parameter must be a valid reallocation ID.
- The participant ID of the Counterparty in the reallocation must match the ID of the request participantId.
- The counterparty must be registered for reallocations.
- The reallocation must be in the SUBMIT state.
- A prudential run must be available with a prudential date equal to the current day.
- The Credit and Debit participants must both pass a prudential check at the time of authorisation (see Prudential checks).

If any of the request validations fail, an error (422) response is returned.

5.2.2 API request/response structure

API	authoriseReallocation	
Method	PUT	
URL	/NEMWholesale/reallocations/v1/authoriseReallocation	
Authorisation	Participant specific	
Parameters	Name	Description
	reallocationId	Unique reallocation identifier
	counterPartyReference	Optional reference detail for the counterparty.

API	authoriseReallocation
Request content	<p>Content Body:</p> <pre>{ "reallocationId": [string], "counterpartyReference": [string] }</pre>
Success response	<p>Content Body:</p> <pre>{ "transactionId": [string] "data": { } }</pre>

Example request

```
PUT /NEMWholesale/reallocations/v1/authoriseReallocation
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
{
  "reallocationId": "20130108.RS003",
  "counterpartyReference": "<COUNTERPARTY_REFERENCE>"
}
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "0598cd72-2a81-4cf5-9809-2a7c81d28610",
  "data": {
    "responseAppStatus": "Successful",
    "messageList": []
  },
  "errors": []
}
```

5.3 cancelReallocation API

The cancelReallocation API sets the state of a reallocation to CANCEL, signalling to the Prudential system to exclude the reallocation from processing further.

5.3.1 Validation rules

- The request must pass JSON schema validation for the request type.
- The reallocationId parameter must be a valid reallocation ID.
- Either the submittingParticipantId or counterpartyParticipantId property of the reallocation must match the ID of the request participantId.
- The reallocation must be in the SUBMIT state.

If any of the request validations fail, an error (422) response is returned.

5.3.2 API request/response structure

API	cancelReallocation						
Method	PUT						
URL	/api/NEMReallocations/v1/cancelReallocation						
Authorisation	Participant specific						
Parameters	<table border="1"> <thead> <tr> <th>Name</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>reallocationId</td> <td>Unique reallocation identifier</td> </tr> <tr> <td>counterPartyReference</td> <td>Optional reference detail for the counterparty.</td> </tr> </tbody> </table>	Name	Description	reallocationId	Unique reallocation identifier	counterPartyReference	Optional reference detail for the counterparty.
Name	Description						
reallocationId	Unique reallocation identifier						
counterPartyReference	Optional reference detail for the counterparty.						
Request content	<p>Content Body:</p> <pre>{ "reallocationId": [string], "counterpartyReference": [string] }</pre>						
Success response	<p>Content Body:</p> <pre>{ "transactionId": [string] "data": { } }</pre>						

Example request

```
PUT /NEMWholesale/reallocations/v1/cancelReallocation
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
{
  "ReallocationId": "20181214.RS019",
  "CounterpartyReference": "<COUNTERPARTY_REFERENCE>"
}
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "0598cd72-2a81-4cf5-9809-2a7c81d28610",
  "data": {
    "responseAppStatus": "Successful",
    "messageList": []
  },
  "errors": []
}
```

5.4 getReallocation API

The getReallocation API retrieves a single reallocation along with its associated properties and reallocation profile data. The reallocationId request parameter is used to retrieve the reallocation matching the supplied ID.

The request is subject to the following validation:

- The reallocationId parameter must be a valid reallocation ID.
- Either the submittingParticipantId or counterpartyParticipantId property of the reallocation must match the ID of the request participantId.

If either of the request validations fail, an error (422) response is returned.

5.4.1 API request/response structure

API	getReallocation
Method	GET
URL	/NEMWholesale/reallocations/v1/getReallocation

API	getReallocation				
Authorisation	Participant specific				
Request content	<table border="1"> <thead> <tr> <th style="background-color: #808080; color: white;">Query Parameters</th> <th style="background-color: #808080; color: white;">Description</th> </tr> </thead> <tbody> <tr> <td style="background-color: #808080; color: white;">reallocationId</td> <td>[Mandatory] Unique ID of the reallocation requesting data.</td> </tr> </tbody> </table>	Query Parameters	Description	reallocationId	[Mandatory] Unique ID of the reallocation requesting data.
Query Parameters	Description				
reallocationId	[Mandatory] Unique ID of the reallocation requesting data.				
Success response	<p>Content Body:</p> <pre> { "transactionId": [string] "data": { "reallocation": { "reallocationId": [string], "startDate": [datetime], "endDate": [datetime], "submittingParticipantId": [string], "counterpartyParticipantId": [string], "agreementTypeId": [string], "profileTypeId": [string], "regionId": [string], "currentStepId": [string], "creditDebitIndicator": [string], "submittingParticipantReference": [string], "counterpartyReference": [string], "intervalLength": [integer], "calendarId": [string] "lastChanged": [datetime], "reallocationProfile": [{ "periodId": [integer], "reallocationValue": [decimal], "nrp": [decimal] }] } } } </pre>				

Example request

```

GET
/NEMWholesale/reallocations/v1/getReallocation?ReallocationId=20130108.RS004
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>

```

Example response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "9cc007d7-c8da-436a-9fe7-d6a618b1d8fa",
  "data": {
    "reallocation": {
      "reallocationId": "20130108.RS004",
      "startDate": "2013-01-20T00:00:00",
      "endDate": "2013-01-26T00:00:00",
      "submittingParticipantId": "<PID1>",
      "counterPartyParticipantId": "<PID2>",
      "agreementTypeId": "MWh",
      "profileTypeId": "NON_BUSINESS",
      "regionId": "VIC1",
      "currentStepId": "AUTHORISE",
      "creditDebitIndicator": "C",
      "submittingParticipantReference": "<SUBMITTINGPARTYREFERENCE>",
      "counterPartyReference": null,
      "intervalLength": 5,
      "calendarId": null,
      "lastChanged": "2013-01-10T11:06:16",
      "exAnteDueDate": "2013-01-10T00:00:00",
      "exPostDueDate": "2013-02-19T00:00:00",
      "reallocationProfile": [
        {
          "periodId": 1,
          "reallocationValue": 34.08,
          "nrp": 0.0
        },
        {
          "periodId": 2,
          "reallocationValue": 31.74,
          "nrp": 0.0
        },
        .....
        {
          "periodId": 287,
          "reallocationValue": 43.26,
          "nrp": 0.0
        },
        {

```

```

        "periodId": 288,
        "reallocationValue": 40.42,
        "nrp": 0.0
      }
    ]
  },
  "errors": []
}

```

5.5 getReallocations API

The getReallocations API retrieves a list of reallocations and associated properties that fulfil the following criteria:

- Either the submittingParticipantId or counterpartyParticipantId property of the reallocation must match the ID of the request participantId.
- If the regionId filter parameter is in the request, the regionId property of the reallocation must match the value.
- If the startDate filter parameter is in the request, the endDate property of the reallocation must be greater than or equal to the value.
- If the endDate filter parameter is in the request, the startDate property of the reallocation must be less than or equal to the value.
- If the agreementType filter parameter is in the request, the agreementType property of the reallocation must match one of the comma-separated values.
- If the steps filter parameter is in the request, the current_StepId property of the reallocation must match one of the comma-separated values.
- If the lastChangedGreaterThan parameter is present in the request, the lastChanged property of the reallocation must be greater than or equal to the value.
- If the expiringWithinDays parameter is present in the request, the exPostDueDate property of the reallocation must be greater than or equal to the current system date plus the number of days equal to the parameter value.

The filter criteria are additive, that is they collectively represent a series of AND operations on the filter.

5.5.1 API request/response structure

API	getReallocations
Method	GET
URL	/NEMWholesale/reallocations/v1/getReallocations
Authorisation	Participant specific

API	getReallocations	
Request content	Query Parameters	Description
	startDate	[Optional] Start date parameter of the reallocation filter.
	endDate	[Optional] End date parameter of the reallocation filter.
	agreementType	[Optional] Agreement types parameter of the reallocation filter, containing a comma-separated listed of agreement type IDs.
	steps	[Optional] Steps parameter of the reallocation filter, containing a comma-separated list of reallocation step IDs.
	regionId	[Optional] Region ID parameter of the reallocation filter.
	calendarId	[Optional] Calendar ID parameter of the reallocation filter.
	expiringWithinDays	[Optional] Expiring within X days parameter of the reallocation filter.
	lastChangedGreaterThan	[Optional] Last changed greater than X parameter of the reallocation filter.

API	getReallocations
Success response	<p>Content Body:</p> <pre style="border: 1px solid black; padding: 10px;"> { "transactionId": [string] "data": { "reallocations": [{ "reallocationId": [string], "startDate": [datetime], "endDate": [datetime], "submittingParticipantId": [string], "counterpartyParticipantId": [string], "agreementTypeId": [string], "profileTypeId": [string], "regionId": [string], "currentStepId": [string], "creditDebitIndicator": [string], "submittingParticipantReference": [string], "counterpartyReference": [string], "intervalLength": [integer] "lastChanged": [integer] }] } } </pre>

Example request

```

GET
/NEMWholesale/reallocations/v1/getReallocations?StartDate&EndDate&RegionId&Last
ChangedGreaterThan&AgreementTypes&Steps&ExpiringWithinDays&CalendarId&ExPostDue
DateStart&ExPostDueDateEnd
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>

```

Example response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "a531c7a4-b49e-48c4-91f2-cb8ab486e670",

```

```

"data": {
  "responseAppStatus": "Successful",
  "reallocations": [
    {
      "reallocationId": "20130108.RS004",
      "startDate": "2013-01-20T00:00:00",
      "endDate": "2013-01-26T00:00:00",
      "submittingParticipantId": "<SUBMITTING_PARTICIPANTID>",
      "counterPartyParticipantId": "<COUNTERPARTY_PARTICIPANTID>",
      "agreementTypeId": "MWh",
      "profileTypeId": "NON_BUSINESS",
      "regionId": "VIC1",
      "currentStepId": "AUTHORISE",
      "creditDebitIndicator": "C",
      "submittingParticipantReference": "APG Week 04-13 NWD",
      "counterPartyReference": null,
      "intervalLength": 0,
      "calendarId": null,
      "lastChanged": "2013-01-10T11:06:16",
      "exAnteDueDate": "2013-01-10T00:00:00",
      "exPostDueDate": "2013-02-19T00:00:00",
      "reallocationProfile": []
    },
    {
      "reallocationId": "20130108.RS003",
      "startDate": "2013-01-20T00:00:00",
      "endDate": "2013-01-26T00:00:00",
      "submittingParticipantId": "<SUBMITTING_PARTICIPANTID>",
      "counterPartyParticipantId": "<COUNTERPARTY_PARTICIPANTID>",
      "agreementTypeId": "MWh",
      "profileTypeId": "BUSINESS",
      "regionId": "VIC1",
      "currentStepId": "AUTHORISE",
      "creditDebitIndicator": "C",
      "submittingParticipantReference": "APG Week 04-13WD",
      "counterPartyReference": null,
      "intervalLength": 0,
      "calendarId": null,
      "lastChanged": "2013-01-10T11:07:03",
      "exAnteDueDate": "2013-01-10T00:00:00",
      "exPostDueDate": "2013-02-19T00:00:00",
      "reallocationProfile": []
    },
    {
      "reallocationId": "20121120.RS001",
      "startDate": "2012-12-02T00:00:00",
      "endDate": "2012-12-08T00:00:00",
      "submittingParticipantId": "<SUBMITTING_PARTICIPANTID>",
      "counterPartyParticipantId": "<COUNTERPARTY_PARTICIPANTID>",
      "agreementTypeId": "MWh",
      "profileTypeId": "BUSINESS",
      "regionId": "VIC1",
      "currentStepId": "AUTHORISE",
      "creditDebitIndicator": "C",
      "submittingParticipantReference": "REF Week 04-13WD",
      "counterPartyReference": null,
    }
  ]
}

```

```

    "intervalLength": 0,
    "calendarId": null,
    "lastChanged": "2013-01-10T11:07:03",
    "exAnteDueDate": "2013-01-10T00:00:00",
    "exPostDueDate": "2013-02-19T00:00:00",
    "reallocationProfile": []
  }
]
}
},
"errors": []
}

```

5.6 getProfileTypes API

The getProfileTypes API retrieves a list of reallocation Day Types and associated descriptions. Possible values are:

- Flat – everyday including Business and Non-Business days
- Business – Business days do not include weekends or public holidays (based on the chosen PH calendar).
- Non-business – Any day that is not a business day.

5.6.1 API request/response structure

API	getProfileTypes
Method	GET
URL	/NEMWholesale/reallocations/v1/getProfileTypes
Authorisation	Not authenticated
Request content	None
Success response	<p>Content Body:</p> <pre> { "transactionId": [string] "data": { "profileTypes": [{ "profileTypeId": [string], "description": [string] }] } } </pre>

Example request

```
GET /NEMWholesale/reallocations/v1/getProfileTypes
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "d7c837ae-f752-4d0d-a961-4bce0e47103b",
  "data": {
    "profileTypes": [
      {
        "profileTypeId": "FLAT",
        "description": "Apply to profile to all days"
      },
      {
        "profileTypeId": "BUSINESS",
        "description": "Apply to profile to business days only"
      },
      {
        "profileTypeId": "NON_BUSINESS",
        "description": "Apply to profile to non-business days only"
      }
    ]
  },
  "errors": []
}
```

5.7 getReallocationSteps API

The getReallocationSteps API retrieves a list of reallocation step IDs and associated descriptions.

5.7.1 API request/response structure

API	getReallocationSteps
Method	GET
URL	/NEMWholesale/reallocations/v1/getReallocationSteps
Authorisation	Not authenticated
Request content	None

API	getReallocationSteps
Success response	<p>Content Body:</p> <pre style="border: 1px solid black; padding: 10px; margin: 10px 0;"> { "transactionId": [string] "data": { "reallocationSteps": [{ "stepId": [string], "description": [string] }] } }</pre>

Example request

```

GET /NEMWholesale/reallocations/v1/getReallocationSteps
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
```

Example response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "c084a0c1-633e-4d55-bcde-1f7600b978a1",
  "data": {
    "reallocationSteps": [
      {
        "stepId": "AUTHORISE",
        "description": "Authorised"
      },
      {
        "stepId": "CANCEL",
        "description": "Cancelled"
      },
      {
        "stepId": "EXPIRED",
        "description": "Expired"
      },
      {
```

```

    "stepId": "SUBMIT",
    "description": "Submitted"
  }
]
},
"errors": []
}

```

5.8 getRegions API

The getRegions API retrieves a list of regions and associated descriptive names. Possible values are as follows:

- New South Wales
- Queensland
- South Australia
- Tasmania
- Victoria

5.8.1 API request/response structure

API	getRegions
Method	GET
URL	/NEMWholesale/reallocations/v1/getRegions
Authorisation	Not authenticated
Request content	None
Success response	<p>Content Body:</p> <pre> { "transactionId": [string] "data": { "regions": [{ "regionId": [string], "name": [string] }] } } </pre>

Example request

```

GET /NEMWholesale/reallocations/v1/getRegions
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>

```

Example response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "21674758-ae35-46eb-88a9-14c0bcbc7b5f",
  "data": {
    "regions": [
      {
        "regionId": "NSW1",
        "name": "New South Wales"
      },
      {
        "regionId": "QLD1",
        "name": "Queensland Region"
      },
      {
        "regionId": "SA1",
        "name": "South Australia Region"
      },
      {
        "regionId": "SNOWY1",
        "name": "Snowy Regions"
      },
      {
        "regionId": "TAS1",
        "name": "Tasmanian Region"
      },
      {
        "regionId": "VIC1",
        "name": "Victoria"
      }
    ]
  }
},

```

```

    "errors": []
  }

```

5.9 getCalendars API

The getCalendars API retrieves a list of Calendar IDs and associated descriptive names fulfilling the following criteria:

- The Calendar is configured for reallocations.
- If the regionId filter parameter is in the request, there must be at least one calendar entry matching the given region.
- If the startDate filter parameter is in the request, there must be at least one calendar entry with a calendar date greater than or equal to the start date.
- If the endDate filter parameter is in the request, there must be at least one calendar entry with a calendar date less than or equal to the end date.

The filter criteria are additive, that is they collectively represent a series of AND operations on the filter.

The list of calendars is taken from the NEM database.

5.9.1 API request/response structure

API	getCalendars	
Method	GET	
URL	/NEMWholesale/reallocations/v1/getCalendars	
Authorisation	No authorisation	
Request content	Query Parameters	Description
	regionId	[Optional] Region ID parameter of the reallocation filter.
	startDate	[Optional] Start date parameter of the calendar filter.
	endDate	[Optional] End date parameter of the calendar filter.

API	getCalendars
Success response	<p>Content Body:</p> <pre style="border: 1px solid black; padding: 10px;">{ "transactionId": [string] "data": { "calendars": [{ "calendarId": [string], "description": [string] }] } }</pre>

Example request

```
GET /NEMWholesale/reallocations/v1/getCalendars
Accept: application/json
Accept-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "187bd455-0108-4411-ab8f-e993448cfde5",
  "data": {
    "calendars": [
      {
        "calendarId": "SETT_REGIONAL",
        "description": "Includes public holidays by NEM region"
      }
    ]
  }
},
```

```

    "errors": []
  }

```

5.10 getCalendar API

The getCalendar API retrieves a list of public holidays from a given calendar.

The calendar non-business days are taken from the NEM database.

Weekends are implicitly assumed to be non-business days and are not explicitly included in the calendar information returned.

5.10.1 API request/response structure

API	getCalendar					
Method	GET					
URL	/NEMWholesale/reallocations/v1/getCalendar					
Authorisation	Not authenticated					
Request content	<table border="1"> <thead> <tr> <th>Query Parameters</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>calendarId</td> <td>[Mandatory] Unique ID of the calendar for which data is requested.</td> </tr> </tbody> </table>		Query Parameters	Description	calendarId	[Mandatory] Unique ID of the calendar for which data is requested.
Query Parameters	Description					
calendarId	[Mandatory] Unique ID of the calendar for which data is requested.					
Success response	<p>Content Body:</p> <pre> { "transactionId": [string] "data": { "calendarId": [string], "regions": [{ "regionId": [string], "nonBusinessDays": [[datetime], [datetime], [datetime], [datetime], [datetime]] }] } } </pre>					

Example request

```
GET /NEMWholesale/reallocations/v1/getCalendar?calendarId=SETT_REGIONAL
Accept: application/json
Accept-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "c6e37c00-bd13-47e1-a6e9-d434754316dd",
  "data": {
    "calendars": {
      "calendarId": "SETT_REGIONAL",
      "Regions": [
        {
          "regionId": "NSW1",
          "nonBusinessdays": [
            "2016-01-01T00:00:00",
            "2016-01-26T00:00:00",
            .....,
            "2021-12-27T00:00:00",
            "2021-12-28T00:00:00"
          ]
        },
        {
          "regionId": "QLD1",
          "nonBusinessdays": [
            "2016-01-01T00:00:00",
            "2016-01-26T00:00:00",
            .....,
            "2021-12-27T00:00:00",
            "2021-12-28T00:00:00"
          ]
        },
        {
          "regionId": "SA1",
          "nonBusinessdays": [
            "2016-01-01T00:00:00",
            "2016-01-26T00:00:00",
            .....,
            "2021-12-27T00:00:00",
            "2021-12-28T00:00:00"
          ]
        },
        {
          "regionId": "TAS1",
          "nonBusinessdays": [
```

```

        "2016-01-01T00:00:00",
        "2016-01-26T00:00:00",
        .....,
        "2021-12-27T00:00:00",
        "2021-12-28T00:00:00"
    ]
},
{
    "regionId": "VIC1",
    "nonBusinessdays": [
        "2016-01-01T00:00:00",
        "2016-01-26T00:00:00",
        .....,
        "2021-12-27T00:00:00",
        "2021-12-28T00:00:00"
    ]
}
]
}
},
"errors": []
}

```

5.11 getParticipants API

The getParticipants API retrieves a list of NEM Participant IDs and associated descriptive names fulfilling the following criteria:

- Have a participant class of Market Participant.
- Participants cannot create reallocation requests between participant IDs owned by the same Company ID.

5.11.1 API request/response structure

API	getParticipants
Method	GET
URL	/NEMWholesale/reallocations/v1/getParticipants
Authorisation	Not authenticated
Request content	None

API	getParticipants
Success response	<p>Content Body:</p> <pre style="border: 1px solid black; padding: 10px; margin: 10px 0;">{ "transactionId": [string] "data": { "participants": [{ "participantId": [string], "name": [string] }] } }</pre>

Example request

```
GET /NEMWholesale/reallocations/v1/getParticipants
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "796249d9-f4c8-4889-927a-24e55a5c79dc",
  "data": {
    "participants": [
      {
        "participantId": "Participant1",
        "name": " Participant1",
        "enable_Derivatives": false
      },
      {
        "participantId": " Participant2",
        "name": " Participant2",
        "enable_Derivatives": false
      }
    ]
  }
}
```

```

    },
    .....
    {
      "participantId": " Participant_n-1",
      "name": " Participant_n-1",
      "enable_Derivatives": false
    },
    {
      "participantId": " Participant_n",
      "name": " Participant_n ",
      "enable_Derivatives": false
    }
  ]
}
"errors": []
}

```

5.12 getAgreementTypes API

The getAgreementTypes API retrieves a list of reallocation agreement types and associated descriptions. Possible values are:

- \$ - Dollar offset, a set dollar value for each interval
- MWh – Energy Offset, a set energy quantity for each interval, values at that interval's RRP.
- Swap – Swap offset, a quantity and price.
- Cap – Cap offset, a quantity and price.
- Floor – Floor offset, a quantity and price.

5.12.1 API request/response structure

API	getAgreementTypes
Method	GET
URL	/NEMWholesale/reallocations/v1/getAgreementTypes
Authorisation	Not authenticated
Request content	None

API	getAgreementTypes
Success response	<p>Content Body:</p> <pre> { "transactionId": [string] "data": { "agreementTypes": [{ "agreementTypeId": [string], "description": [string] }] } } </pre>

Example request

```

GET /NEMWholesale/reallocations/v1/getAgreementTypes
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>

```

Example response

```

HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "623aa230-d2aa-4218-9447-eb65364888e5",
  "data": {
    "agreementTypes": [
      {
        "agreementTypeId": "$",
        "description": "Dollar"
      },
      {
        "agreementTypeId": "MWh",
        "description": "Quantity"
      }
    ]
  }
},

```

```

    "errors": []
  }

```

5.13 getMarketPriceCap API

The getMarketPriceCap API retrieves the VOLL (Value of Lost Load) price at the given effective date in the request.

The specific value retrieved is the one that:

- Has an effectiveDate value that is the greatest effectiveDate value, less than or equal to the supplied effective date in the request, where the record is authorised.
- Has a versionNo value that is greater than the versionNo value, for the corresponding effectiveDate value, where the record is authorised.

5.13.1 API request/response structure

API	getMarketPriceCap				
Method	GET				
URL	/NEMWholesale/reallocations/v1/getMarketPriceCap				
Authorisation	Not authenticated				
Request content	<table border="1"> <thead> <tr> <th>Query Parameters</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>effectiveDate</td> <td>[Mandatory] The date for which to retrieve the Market Price Cap in yyyy-mm-dd format</td> </tr> </tbody> </table>	Query Parameters	Description	effectiveDate	[Mandatory] The date for which to retrieve the Market Price Cap in yyyy-mm-dd format
Query Parameters	Description				
effectiveDate	[Mandatory] The date for which to retrieve the Market Price Cap in yyyy-mm-dd format				
Success response	<p>Content Body:</p> <pre> { "transactionId": [string] "data": { "vollPrice": [number] } } </pre>				

Example request

```
GET /NEMWholesale/reallocations/v1/getMarketPriceCap
Content-Type: application/json
Accept: application/json
Accept-Encoding: gzip
Content-Length: nnn
Content-Encoding: gzip
Authorisation: Basic dGVzdG1hbnVhbSpOZK1tY28wMw==
X-market: NEM
X-initiatingParticipantID: <PARTICIPANTID>
```

Example response

```
HTTP/1.1 200 OK
Content-Type: application/json
Content-Length: nnn
Content-Encoding: gzip
{
  "transactionId": "3d681ce4-57e5-4446-a6d9-74a874963e84",
  "data": {
    "vollPrice": 11100.0
  },
  "errors": []
}
```

5.14 Prudential checks

AEMO validates the ex post reallocations to determine whether a reallocation results in either party breaching their Prudential Requirements. AEMO rejects any reallocation that results in a breach at the submission and authorisation steps.

AEMO performed these checks before 5MS project and there will be no change to this.

5.14.1 Prudential run trigger

A prudential run is triggered by the Reallocations service when any reallocation is successfully submitted with an ex post component.

5.15 Notifications

This Release includes three new notifications implemented in NEM Reports and Settlements Direct. Participants can subscribe separately to each notification in the Settlements Direct system.

- Due date reminder notification: A notification is triggered listing all submitted reallocations that are about to reach the ex post or ex ante due date.
- New or changed reallocation notification:

For details on accessing information on Settlements Direct, see the [EMMS Settlements Direct User Interface Guide](#).

- A notification is triggered when a reallocation involving the participant is created or changes its status.
- A notification is triggered when a reallocation involving the participant is created or changed by the counterparty.

Participants receive two notifications if subscribed to both notifications under new or changed reallocations.

5.15.1 Setup notification messages

To configure Reallocations notification messages, you must make sure you are subscribed to the Data Subscription web application.

Participants are subscribed to the Data Subscription as a part of the registration process. For more information, see [Guide to Data Subscription](#).

Add Participant Users as Participant Contacts

1. On MSATS Web Portal, click **Participants**, and then click **Participant Contacts**.
2. On the **Participants Contact – Lists** page, click **New** above the **Actions** column.
3. Enter the information for the participant you want to add.
4. Under the **Contact Type** dropdown, select **S**.
5. Click **Save**.

For more details, see [Creating a new contact section in the Guide to MSATS Web Portal](#).

Subscribe to notifications on Settlements Direct

1. In the **EMMS Markets Portal > MMS > Settlements Direct > Subscriptions**, under **Category**, select **NEM Alerts, Reminders and Notifications**.
2. Under **Type**, select the notification type to enable.
3. Select **Notify by SMS, Email, or Notify by Email**. Note that **Email** and **Notify by Email** perform the same function by sending notifications to the nominated email address.
4. Click **Submit**.

For more details, see the [Subscriptions chapter in the EMMS Settlements Direct User Interface Guide](#).

5.15.2 Sample notification messages

The sample notification emails and text messages for reallocations use the following field IDs:

- RRID: Reallocation ID
- PID1: Submitting participant ID
- Ref1: Submitting participant’s reference
- EADD: Ex ante due date (format: DD/MM/YYYY)
- EADD WD: EADD warning date. This date is configurable and currently set at two business days prior to the EADD.
- EPDD: Ex post due date (format: DD/MM/YYYY)
- EPDD WD: EPDD warning date. This date is configurable and currently set at 2 business days prior to the EPDD.
- Status: Reallocation status - SUBMITTED, AUTHORISED, CANCELLED, EXPIRED

5.15.2.1 Due date reminder notification

This notification includes all reallocations where:

- The participant is either submitter or counterparty
- The reallocation is at the SUBMIT step
- The number of days between the current system date and the ex ante due-date or ex post due-date is greater than 0 and less than or equal to 2. Participants can configure the number of days before expiry for notifications.

The alert is configured to run each day at 9 am, using the event scheduling feature already provided by NEM Reports.

Sample email

Subject: NEM Reallocations Pending Authorisation				
Content: The following reallocations are pending authorisation on <EADD or EPDD(1)>:				
Reason	Role	Reallocation ID	Counterparty	Ref
-----	----	-----	-----	---
<“Ex ante” ‘Ex post’ >	<‘Submitter’ Counterparty>	<RRID>	<counterparty PID>	<Reference ID>

Sample text message

NEM reminder: <number of RRs affected> reallocations pending authorisation.

5.15.2.2 New or changed reallocation notification

Participants can subscribe to a notification that is triggered when a Reallocation Request is created or changes status. This involves the following options:

- A notification is triggered when a reallocation involving the participant is created or changes its status.
- A notification is triggered when a reallocation involving the participant is created or changed by the counterparty.

Participants receive two notifications if subscribed to both.

Sample email

Subject: NEM Reallocations <RRID> changed to <Status>

Content:

Reallocation ID: <RRID>

Counterparty: <counterparty PID(1)>

Ref: < Party reference ID(2)>

Is now: <Status>

Actioned by <PID(3)>

Sample text message

NEM Reallocation <RRID> changed to <Status>

6 Electricity Data Model 4.30

This Release contains a new version of the Electricity Data Model 4.30. This section describes the affected packages, tables, files, reports, and interfaces.

The Release has changes to the following packages:

- SETTLEMENT_CONFIG

The following changes are under consultation and not definite at this stage.

6.1 Data Model changes summary

Package	Table name	Change	Details
SETTLEMENT_CONFIG	REALLOCATION	Adds new columns	CALENDARID and INTERVALLENGTH

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

Package: SETTLEMENT_CONFIG

Configuration and input data for the Settlements Process

6.2 Modified table: REALLOCATION

Comment	The REALLOCATION table shows the financial transactions agreed between two participants that are settled through the AEMO pool settlements process.
Visibility	Private
Trigger	
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	REALLOCATIONID

6.2.1 New columns

Field Name	Data type	Comment	Primary Key
CALENDARID	VARCHAR2 (30)	Unique ID of the calendar for which data is requested	N
INTERVALLENGTH	NUMBER (3,0)	The length of settlement intervals (in minutes) in the reallocation profile	N

6.3 Participant interfaces changes

The Data Model design is still in progress and AEMO will provide more information in the future document revision.

"MMS Data Model Table" = NEMReports.Files.Data_Model_Table

"File ID" = NEMReports.Files.Data_Model_File_ID (if null then NEMReports.Files.File_ID)

"CSV report type" = NEMReports.Reports.Report_Type + ',' + NEMReports.Reports.Data_Model_Table + ',' + NEMReports.Reports.Report_Version

Package Name	MMS Data Model table	File ID	CSV report type	Change
SETTLEMENT_CONFIG	REALLOCATION	REALLOCATION	REALLOCATION,REALLOCATION,2	Modified

6.4 File interface changes

Package ID	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
SETTLEMENT_CONFIG	REALLOCATION	The column REALLOCATION_TYPE is used in conjunction with CREDITPARTICIPANT or DEBITPARTICIPANT to determine who submitted a reallocation.	*_REALLOCATION_*.CSV		Modified	No

6.5 Discontinued

No discontinued reports.

6.6 Non-functional changes

Table 3 MMS Data Model 4.30 non-functional changes

MMS Data Model table	Change detail
MMS Data Model Upgrade Report MMS Data Model Report MMS Data Model Package Summary MMS Data Model Table to File to Report Relationships workbook	Updated for new Data model version and AEMO branding

7 Implementation

7.1 Transition

Participants are required to upgrade their Data Model versions to 4.30 to receive the new 5MS Reallocations information. For details, see Electricity Data Model 4.30.

This section is a draft and subject to the 5MS Readiness Workstream transition and cutover forums.

7.2 Implications

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

- Review the changes implemented as part of this Release and assess the impact on their market systems.
- 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.

7.3 Risks

- Participants not subscribed to the latest versions of files using the Data Subscriptions web application will not receive the new data.

7.4 Upgrade options

From a wholesale energy market system's focus, participants need to:

- Review the changes implemented as part of this Release and assess the impact on their market systems.
- Plan to upgrade their Data Interchange installations to the latest versions to utilise benefits from the new functionality, operate against newly supported platforms, and to maintain ongoing support from AEMO.
- Schedule staff and resources to upgrade their market systems from the implementation of this Release. To maintain systems in line with AEMO's market systems, AEMO recommends upgrading within six months of the implementation date.
- Change their systems prior to the deployment of this Release to ensure they are current. AEMO recommends participants' wholesale market systems are compliant with the latest Data Interchange software versions, see **Data Interchange Framework and Glossary**.

7.5 What happens if I do not upgrade?

If participants' systems are compliant with AEMO's supported configuration defined in [DI Framework and Glossary](#), this Release does not impact MMS Data Model systems immediately. Depending on participants' systems, not upgrading may result in the following issues:

- Participant's database does not receive the new fields or tables because the Data Model elements are not created.
- Participants not subscribed to the latest versions of files using the Data Subscriptions web application will not receive the new data.
- Content in legacy files may change after deployment of this Release.

AEMO encourages participants to make use of the four-week pre-production period, to assess and test any impact to their market systems and business processes. Participants using data replication products critical to their business are strongly advised to participate in the pre-production rollout and testing period.

If participants have a system dependency on the formats of the non-MMS Data Model reports, they need to manage these dependencies using the detail provided in this technical specification. Participants need to review and assess the impact on their market systems with respect to the changes implemented as part of this Release.

8 Needing Help?

8.1 AEMO's Support Hub

IT assistance is requested through one of the following methods:

- Phone: 1300 AEMO 00 (1300 236 600)
For non-urgent issues, normal coverage is 8:00 AM to 6:00 PM on weekdays, Australian Eastern Standard Time (AEST).
- Email: supporthub@aemo.com.au
- The [Contact Us](#) form on AEMO's website.

AEMO recommends participants call AEMO's Support Hub for urgent issues, whether or not you have logged a call using the contact us form.

8.2 Information to provide

Please provide the following information when requesting assistance from AEMO:

- Your contact details
- Company name
- Company ID
- System or application name
- Environment: production or pre-production
- Problem description
- Screenshots

For AEMO software-related issues please also provide:

- Participant ID (if Data Interchange (DI) problem)
- Version of software
- Properties or log files
- PDR Monitor support dump and DI instance name (if DI problem)

8.3 Feedback

To suggest improvements to this document, please contact [AEMO's Support Hub](#).

9 Reallocations JSON Schema

This section provides the JSON schema for the Reallocation APIs.

9.1 submitReallocation

```

{
  "definitions": {},
  "$schema": "http://json-schema.org/draft-07/schema#",
  "$id": "http://nemweb.com.au/schemas/json/submitReallocation.json",
  "type": "object",
  "description": "An explanation about the purpose of this instance.",
  "additionalProperties": false,
  "required": [
    "reallocation"
  ],
  "properties": {
    "reallocation": {
      "$id": "#/properties/reallocation",
      "type": "object",
      "description": "Reallocation details of the request",
      "additionalProperties": false,
      "required": [
        "startDate",
        "endDate",
        "submittingParticipantId",
        "counterPartyParticipantId",
        "agreementTypeId",
        "profileTypeId",
        "regionId",
        "creditDebitIndicator",
        "intervalLength",
        "submittingParticipantReference",
        "calendarId",
        "reallocationProfile"
      ],
      "properties": {
        "startDate": {
          "$id": "#/properties/reallocation/properties/startDate",
          "type": "string",
          "description": "Start date of reallocation request.",
          "format": "date-time"
        },
        "endDate": {
          "$id": "#/properties/reallocation/properties/endDate",
          "type": "string",
          "description": "End date of reallocation request.",
          "format": "date-time"
        },
        "submittingParticipantId": {
          "$id":
            "#/properties/reallocation/properties/submittingParticipantId",
          "type": "string",
          "description": "submitting participant id of reallocation request.",
          "minLength": 1,
          "maxLength": 20
        },
        "counterPartyParticipantId": {
          "$id":
            "#/properties/reallocation/properties/counterPartyParticipantId",

```

```

        "type": "string",
        "description": "counter party id of reallocation request.",
        "minLength": 1,
        "maxLength": 20
    },
    "agreementTypeId": {
        "$id": "#/properties/reallocation/properties/agreementTypeId",
        "type": "string",
        "description": "Agreementtypeid of reallocation request.",
        "minLength": 1,
        "maxLength": 10
    },
    "profileTypeId": {
        "$id": "#/properties/reallocation/properties/profileTypeId",
        "type": "string",
        "description": "Profiletype of reallocation request.",
        "minLength": 1,
        "maxLength": 20
    },
    "regionId": {
        "$id": "#/properties/reallocation/properties/regionId",
        "type": "string",
        "description": "Region of reallocation request.",
        "minLength": 1,
        "maxLength": 20
    },
    "creditDebitIndicator": {
        "$id": "#/properties/reallocation/properties/creditDebitIndicator",
        "type": "string",
        "description": "Credit/ Debit indicator - C/D of reallocation
request.",
        "maxLength": 1
    },
    "intervalLength": {
        "$id": "#/properties/reallocation/properties/intervalLength",
        "type": "integer",
        "description": "Interval length 5 or 30 minutes of reallocation
request.",
        "minimum": 5,
        "maximum": 30
    },
    "submittingParticipantReference": {
        "$id":
"#/properties/reallocation/properties/submittingParticipantReference",
        "type": "string",
        "description": "Submitting participant reference of reallocation
request.",
        "minLength": 1,
        "maxLength": 400
    },
    "calendarId": {
        "$id": "#/properties/reallocation/properties/calendarId",
        "type": "string",
        "description": "CalendarId available in the configurable data of
reallocation request.",
        "minLength": 1,

```

```

    "maxLength": 30
  },
  "reallocationProfile": {
    "$id": "#/properties/reallocation/properties/reallocationProfile",
    "type": "array",
    "description": "An explanation about the purpose of this instance.",
    "uniqueItems": true,
    "additionalItems": false,
    "minItems": 48,
    "maxItems": 288,
    "items": {
      "$id":
"#/properties/reallocation/properties/reallocationProfile/items",
      "type": "object",
      "description": "Reallocation interval of reallocation request.",
      "additionalProperties": false,
      "required": [
        "periodId",
        "reallocationValue",
        "nrp"
      ],
      "properties": {
        "periodId": {
          "$id":
"#/properties/reallocation/properties/reallocationProfile/items/properties/peri
odId",
          "type": "integer",
          "description": "Period Id of reallocation request.",
          "minimum": 1,
          "maximum": 288
        },
        "reallocationValue": {
          "$id":
"#/properties/reallocation/properties/reallocationProfile/items/properties/real
locationValue",
          "type": "number",
          "description": "Reallocation value of reallocation request."
        },
        "nrp": {
          "$id":
"#/properties/reallocation/properties/reallocationProfile/items/properties/nrp"
,
          "type": "number",
          "description": "NRP value of reallocation request."
        }
      }
    }
  }
}

```

9.2 authoriseReallocation

```
{
  "definitions": {},
  "$schema": "http://json-schema.org/draft-07/schema#",
  "$id": "http://nemweb.com.au/schemas/json/authoriseReallocation.json",
  "type": "object",
  "description": "Schema of authorise reallocation request",
  "additionalProperties": false,
  "required": [
    "reallocationId",
    "counterpartyReference"
  ],
  "properties": {
    "reallocationId": {
      "$id": "#/properties/reallocationId",
      "type": "string",
      "description": "Reallocation id of the request",
      "minLength": 1,
      "maxLength": 20
    },
    "counterpartyReference": {
      "$id": "#/properties/counterpartyReference",
      "type": "string",
      "description": "Counterparty reference of the details.",
      "minLength": 1,
      "maxLength": 400
    }
  }
}
```

9.3 cancelReallocation

```
{
  "definitions": {},
  "$schema": "http://json-schema.org/draft-07/schema#",
  "$id": "http://nemweb.com.au/schemas/json/CancelReallocation.json",
  "type": "object",
  "description": "Schema of Cancel reallocation request",
  "additionalProperties": false,
  "required": [
    "reallocationId",
    "counterpartyReference"
  ],
  "properties": {
    "reallocationId": {
      "$id": "#/properties/reallocationId",
      "type": "string",
      "description": "Reallocation id of the request",
      "minLength": 1,
      "maxLength": 20
    },
    "counterpartyReference": {
      "$id": "#/properties/counterpartyReference",
      "type": "string",

```

```
    "description": "Counterparty reference of the details.",  
    "minLength": 1,  
    "maxLength": 400  
  }  
}  
}
```

Related Resources

You can find the following resources on AEMO's website:

National Electricity Rules (The Rules): Provides details on the national electricity rules that govern all system and process and procedural changes.

5MS Factsheet: Provides an overview of what 5 Minute Settlement (5MS) is, and how AEMO will implement the change.

5MS High Level Design: Provides information about the potential design of AEMO processes and systems to support the proposed introduction of five-minute settlement'.

NER Amendment – 5MS: Explains the amendments to the Rules regarding 5-minute settlements. See 'National Electricity Amendment (Five-minute settlement rule) 2017'.

NER Amendment – GS: Explains the amendments to the Rules regarding Global settlements. See 'National Electricity Amendment (Global Settlement and Market Reconciliation) Rule 2018.

Data Interchange Framework and Glossary: provides important information about upgrading your Data Interchange (DI) environment, explains DI terms, and DI related resources. Please read this guide in conjunction with this technical specification.

EMMS Settlements Direct User Interface Guide: Explains how to use the Settlements Direct web application providing participants with access to reports and statements published by AEMO.

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 Data Subscription: Provides the instructions for using the Data Subscription web interface in the EMMS.

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

Guide to Electricity Reallocations: Provides instructions for *Registered Participants* to use the Reallocations Request Service (Reallocations) in the Energy Market Systems Web Portal.

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

Rules and Procedures Terms

This section lists the terms defined in the [National Electricity Rules \(NER\)](#) and the following Reallocations procedures:

[Reallocation Procedure: Energy and Dollar Offset Reallocations](#)

[Reallocation Procedure: Swap and Option Offset Reallocations](#)

Term
AEMO
Agreement Type
Billing Period
Business
Calendar
Cap Offset
Counterparty
Credit Participant
Day Type
Debit Participant
Dollar Offset
Energy Offset
Ex Ante Reallocation

Term
Ex Post Reallocation
Flat
Floor Offset
Letter of Agreement
Market Customer
Market Participant
MWh Offset
NEM
Non-business
Participant ID
Period ID
Profile Type
Prudential Requirements

Term
Reallocation Request Service
Reallocation Timetable
Region ID
Registered Participant
Settlements
Strike Price
Swap Offset
Trading Day
Trading Interval

Glossary

Abbreviation	Explanation
30-min period	New term to replace 'trading interval', where the period remains as 30 minutes
5MS	Five-Minute Settlement Program
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AEST	Australian Eastern Standard Time
API	Application Program Interface
Authorise	Reallocation status when a counterparty accepts a Reallocations Request.
Billing Period	7 days from the first trading interval on a Sunday to the last trading interval on the next Saturday.
Cancel	Reallocation status when either the Credit or the Debit participant cancels a Reallocation Request that is currently in the Submit state.
Company ID	<p>Participant ID sits under a Company ID. A Company ID can have multiple Participant IDs.</p> <p>AEMO IT system currently identifies Market Participant as a Participant ID, except for FCAS recovery calculation was changed in 2015.</p> <p>However, as part of the 5MS project, it is required that AEMO system identifies Company ID as Market Participant in accordance with the rules.</p>
CSV files	Files containing data in comma separated values format.
Data Interchange	Data Interchange (DI) is a set of cooperating applications to replicate data between AEMO's systems and a participant's RDBMS conforming to the MMS or Gas Data Model.
Dispatch Interval	Obsolete term. Was a 30-min period. See Trading Interval.
Electricity Data Model	Data published to participants by AEMO from NEM systems.
AEST	Australian Eastern Standard Time

Abbreviation	Explanation
EMMS	(Wholesale) Electricity Market Management System. Single web portal interface to access AEMO's IT systems; software, hardware, network and related processes used to operate the energy market.
FTP	File transfer protocol. A mechanism to securely exchange files between two computer systems.
GS	Global Settlements
JSON	Java Standard Object Notation. An agreed format for text files and data exchange.
Market Customer	AEMO's registration category. Market Customers are typically retailers or large users who draw energy from the transmission grid.
Market Participant	AEMO IT system currently identifies Market Participant as a Participant ID
EMMS Markets Portal	Wholesale Electricity Market Management System; software, hardware, network and related processes to implement the wholesale energy market.
NEM	National Electricity Market.
Outstandings period	<p>A period that starts from the first day of the Billing Period up to the day before the final statement date (inclusive). E.g. Week 18/2019 has a billing period from 28/4 to 4/5. The final statement date is 29/5 so the outstandings period is from 28/4 to 28/5.</p> <ul style="list-style-type: none"> • If the current date is less than the final statement date, the outstandings period is from the start of the billing period to the day before today. • These date ranges are adjusted for public holidays. Week 52 (22/12-28/12/19) has a final statement date of Thursday 23/1/2020, rather than Wednesday 22/1/2020.
Participant Administrator	Your company's PA set up by AEMO during registration
Participant File Server	The publishing point from AEMO systems to participant systems. Each participant is allocated an account and access to private and public areas. Participants are responsible for interfacing with the participant file server.
Participant ID	Registered participant identifier; A company can have more than one Participant ID.
Participant User	An end-user, using AEMO's participant energy market systems to view and retrieve information on behalf of a participant ID. The participant users access rights are created and maintained by the participant ID's Participant Administrator.

Abbreviation	Explanation
Set Participant	Where a Participant User has user rights assigned by more than one participant ID, the Participant User can select the participant ID they want to represent using the Set Participant option in the web portals.
Settlement day	Calendar day starting at 12am. Where 'day' unless otherwise specified, the 24-hour period beginning and ending at midnight Eastern Standard Time (EST).
Submit	Reallocation status when a party submits a Reallocation Request.
Trading Interval	Replaces the dispatch interval as a five-min period.
UFE	Unaccounted for Energy.
URM	User Rights Management, see the Guide to URM on AEMO's website
Value of Load Lost (VoLL)	Defined as the value attributed by energy consumers to unsupplied energy.

Index

\$
\$, 47

A
About to expire, 5
About to Expire, 5
Active period, 7
agreementType, 32
API Gateway, 4
Authentication, 17
authorisation, 17
Authorise, 7
Authorised, 6
authoriseReallocation, 24
Awaiting counterparty, 6
Awaiting your Authorisation, 5

B
Basic HTTP authentication, 17
Bidding, 2
Billing, 3

C
CALENDARID, 54
Cancel reallocation, 11
Cancelled, 6
Cancelled/Rejected, 11
cancelReallocation, 27
Cap, 47
Company ID, 45
Counterparty, 7, 24
counterpartyParticipantId, 21, 27
Creator, 5
Credit, 8
current_StepId, 32

D
Debit, 8
Discard, 10
Dismiss, 11
Dispatch, 2
Download template, 10

Due date reminder, 50
Duplicate, 7

E
effectiveDate, 49
Electricity Data Model, 54
endDate, 32
Ex post due date, 6
Expired, 6
expiringWithinDays, 32
Export, 7
exPostDueDate, 32

F
Five Minute Settlement, 1
Floor, 47

G
getAgreementTypes, 47
getCalendar, 43
getCalendars, 41
getMarketPriceCap, 49
getParticipants, 45
getProfileTypes, 36
getReallocation, 29
getReallocations, 32
getReallocationSteps, 37
getRegions, 39
Global Settlement, 67
Global Settlements, 70

I
intervalLength, 19
INTERVALLENGTH, 54
Invoicing, 3

L
lastChangedGreaterThan, 32

M
Market Participant, 45
Market Price Cap, 49

MWh, 47

N

NEM database, 41
nominated prices, 9

P

participantId, 24
Preview, 10
prudential check, 9
Prudential Requirements, 50
Prudentials, 3
Public Holidays, 5

Q

Quick-fill, 9

R

reallocationId, 24
Reallocations, 3
Reference, 8
Region, 7

regionId, 32
Reject, 7, 13
Rejected, 6, 13
Retail, 2
Reverse, 7

S

SETTLEMENT_CONFIG, 54
Settlements, 2, 3
Settlements Direct, 50
SSL, 17
startDate, 32
SUBMIT, 24
submitReallocation, 19
submittingParticipantId, 21, 27
Swap, 47

U

Upload, 10

V

versionNo, 49

