Real-time Market Submissions
Draft 0.2
API Support Reference

March 2023

Important notice

Purpose

AEMO has prepared this document as a reference for Market Participants (MPs) who will use the Real-time Market Submissions (RTMS) API during Market Testing for the Wholesale Electricity Market System (WEMS), as at the date of publication. The purpose of this document is to support MPs who are testing the RTMS API in the WEMS Market Trial environment. The content of this document is in draft form only, and a finalised version will be available in production.

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Version control

Version	Release date	Changes
0.1 - Draft	March 2023	Release of draft 0.1 of RTMS API Support Reference
0.2 - Draft	April 2023	Updated to reflect change of Market Trial URL from MKT to RFM

Contents

Overview

The Balancing Market and Load Following Ancillary Service (LFAS) markets have been replaced by the new Real-time Market (RTM), which itself co-optimises Energy and Essential System Services (ESS).

The Foundation Regulatory Framework reforms introduced changes to the operation of the Wholesale Energy Market (WEM). This included introducing the RTM and Security Constrained Economic Dispatch (SCED).

Because the WEM Rules for the RTM submissions for SCED are fundamentally different to the previous submissions, AEMO initiated a project to develop a custom-built RTM submissions (RTMS) solution. This work package was developed to deliver the business process and system changes required.

The RTMS Project developed a new submission mechanism and validations for both Energy and ESS bids and offers (regulation raise/lower, contingency raise/lower, and rate of change of frequency (RoCoF)).

This information, received from Market Participants (MPs), is fed into the Dispatch Engine to determine the lowest overall cost dispatch to the market.

The RTMS Project also delivered updated systems that validate MP (MP) submissions, as well as allowing them to query their historic submission data. The updates include:

- Augmented compliance activities, relating to:
  - Obligations for MPs to offer non-outage capacity
  - Obligations for MPs to adjust offers following directions from AEMO.

- Substantial increase in information/data in submissions that will support monitoring/compliance activities, including:
  - Five-minute data (versus 30-minute data)
  - Individual Synergy Facility bids
  - Inclusion of commitment intentions.

The following table shows the pre and post WEM Reform market submission requirements, and illustrates the changes to the dispatch interval, file format, markets, methods for submitting, gate closure and atomicity of submissions as a result of the project.

Requirement	Pre-WEM Reform		Post-WEM Reform	
Dispatch interval	30 minutes		Five minutes	
File format	CSV and XML		JSON	
Markets	Energy and LFAS separate submissions		Energy and ESS (regulation raise/lower, contingency raise/lower, and RoCoF)	
Methods for submitting	API and UI		API and UI	
Gate closure	Balancing: 90 minutes LFAS: 210 minutes		15 minutes*	
Atomicity of submission	Facility:	Min = 1 Max = all facilities in portfolio	Facility:	Min = 1 Max = all facilities in portfolio
	Markets:	1	Markets:	Min = 1 Max = 6
	Intervals:	Min = 1 Max = 48 (for each TD)	Intervals:	Min = 1 Max = 288 (for each TD)

* Gate closure will be 15 minutes for the first six months after go-live. It will then be reviewed to determine an updated gate closure value between 0 and 15 minutes.

The RTMS application APIs allow Market Participants to submit and query RTM and DSP Submissions for all Market Services. The APIs provide the same functionalities available from the RTMS UI in WEMS MPI.

Scope

This document is a support reference, primarily for the MPs during market testing, but it will also be useful for anyone who wants to understand the API.

API general information

API status

Final, participants can use this specification to build their APIs.

API paths

The paths for the APIM endpoints are as follows:

Environment	URL
MPT	https://apis.mpt.aemo.com.au:9319/WEM/v1/realTimeMarketSubmission
Market Trial	https://apis.rfm.aemo.com.au:9319/WEM/v1/realTimeMarketSubmission
Pre-prod	https://apis.preprod.aemo.com.au:9319/WEM/v1/realTimeMarketSubmission
Production	https://apis.prod.aemo.com.au:9319/WEM/v1/realTimeMarketSubmission

Swagger

The Release 4 Swagger and submission schema are available through the links below:

- Swagger

- rtm.submission.schema.json

- dsp.submission.schema.json

Note: You cannot open the schema directly. When you click on the links, the schema will be downloaded to your PC and you can open them from there.

Non-functional requirements

The following table lists the provisional non-functional requirements (NFR) relevant to the project. These will be revised in subsequent versions of this document following consultation with the MPs.

Requirement	Input
Expected number of consumers	150
API gateway throttling	1200 requests/minute
API timeout	60 seconds
Average payload size	1 MB
Maximum payload size	4 MB

Assumed knowledge

We have assumed that readers of this document have some knowledge of API and JSON or YAML basics.

Supporting documents

The following documents should be read in conjunction with this guide:

- WEMS Real-time Market Submission Specification
- WEMS MPI RTMS Draft User Guide

Prerequisites

Before you can use the RTMS API you must have a:

- Participant Id and Facility code. If your company is a Registered Participant, your ID is set up during the registration process.
- Username and password to login to the MPI portal.
- DigiCert certificate (see Authentication methods, below).

Authentication methods

Use the links below for information on AEMOs authentication methods:

- Request a DigiCert certificate
- Access the test systems and the RTMS API.

Compacting files

RTMS has a submission file size limit of 4MB. You can compact (not compress) larger JSON files by removing whitespace, which will reduce the file size.

JSON schema

RTMS relies heavily on JSON structure for external communication, particularly to allow RTMS to receive submissions from MPs, and to broadcast the consolidated submission to WEMDE.

RTM submission JSON schema

For lack of a better term, the standard/regular/vanilla submissions are collectively referred to as the RTM submissions. You can download a copy of the JSON schema document for the RTM submissions at rtm.submission.schema.json.

DSP submission JSON schema

The DSP submission schema is also published and shared with the participants. The DSP submission schema can be downloaded from dsp.submission.schema.json.

APIM endpoints

There are 13 endpoints that you can invoke by passing your DigiCert certificate. Using APIM, when you hit an endpoint, APIM passes your authorisation token to the RTMS system, and the RTMS system validates that.

Put simply, APIM does the authorisation required by the RTMS system on behalf of the participant.

Please note: All URL values in this document are correct at the time of writing, however we advise that, prior to Go Live, you check the Environments (sharepoint.com) document on the Reformer site, where AEMO maintains the current base URLs.

Header attributes

Each of the endpoints has the following header attributes. They are the first and second parameters for each endpoint and are not shown in the following tables of parameters.

Parameter name	Description	Req	Format	Value
X-initiatingparticipantid	The participant ID associated with an individual participant. This ID should be exactly same as in the WEMS MPI Portal. It will be validated in APIM	Y	String	
X-market	The market associated with the API	Y	String	For all WEM APIs the value should be WEM

GET Submissions

This section describes the API endpoints you can use to query submission data and how to use them.

The Submissions endpoint retrieves a list of summary details of historical RTM and DSP submissions based on filter parameters. This endpoint has query parameters only (no payload parameters).

The endpoints can be used with the GET method to query a list of RTM or DSP submissions based on specified parameters.

Submissions

Retrieves historical submissions based on various parameters. Results are paged with default page size of 500 unless specified otherwise.

URL: GET /submissions

Parameters

This table describes the parameters for submissions and how to use them:

Parameter name	Description	Req	Format	Value
submittedFrom	Returns submissions made after the specified date Defaults to the previous 24 hours	*Yes	String ($date)	YYYY-MM-DD *if submittedTo specified
submittedTo	Returns submissions made before the specified date Defaults to current date Must be equal to or greater than submittedFrom (max 30 days from submittedFrom date)	#Yes	String ($date)	YYYY-MM-DD #if submittedFrom specified
submissionType	Returns submissions based on the specified type Note: *Invalid* submission type is only used when there are errors in the submission	No	String	Type: • standing • variation • invalid
status	Returns submissions based on the specified status	No	String	Status: • submitted • rejected • valid • failed
statusUpdateSince	Returns submissions whose status has changed since the specified date and time	No	String ($date-time)	YYYY-MM-DDTHH:mm:ss+08:00
facility	Returns submissions containing the specified facility. The facility can be both RCM and DSP Note: You can only specify the *facility* parameter if the *status* parameter is valid	No	String (max 32 char)	
marketService	Returns submissions containing the specified market service Note: You can only specify the *marketService* parameter if the *status* parameter is valid	No	String	Market service: • energy • regulationRaise • regulationLower • contingencyRaise • contingencyLower • rocof
tradingDay	Returns submissions containing the specified trading day Note: You can only specify the *tradingDay* parameter if the *status* parameter is valid	No	String ($date)	YYYY-MM-DD
hasGateClosureViolation	If this is set to true, it returns valid submissions which contain one or more dispatch intervals within Gate Closure If it is set to false, it returns valid submissions which contain no dispatch intervals within Gate Closure	No	Boolean	true/false

Parameter name	Description	Req	Format	Value
	If you do not specify *hasGateClosureViolation*, it returns submissions with a *status* other than valid			
referenceId	Returns submissions based on the Participant specified *referenceId* The *referenceId* must be no longer than 100 characters	No	String (max 100 char)	
uploadedBy	Returns submissions made by the specified user	No	String (max 30 char)	

Response

```
{
    "transactionId": "6b28588f-6056-4d5b-acfc-389agab2e954",
    "data": [
        {
            "submissionId": "71274d69-211n-433a-ra98-653deddc566c",
            "submissionDateTime": "2023-03-07T12:00:11+08:00",
            "referenceId": "SUB00001",
            "participant": "PARTICIPANT",
            "uploadedBy": "John_Smith",
            "submissionType": "Variation",
            "submissionStatus": "Valid",
            "totalIntervals": 4800,
            "marketServices": 6,
            "facilities": 1,
            "totalIntervalsGateClosure": 0,
            "rowNum": 1,
            "totalRows": 32
        }
    ]
}
```

Submissions/{submissionId}

Retrieves a specific RTM or DSP submission based on submissionId. The response includes summary details, processing results, and the original submission.

URL: GET /submissions/{submissionId}

Parameters
None

Response

```
{
    "transactionId": "fg7949b0-cf25-2ea9-8828-c8a3b4d78aef",
    "data": {
        "submissionId": "71274d69-211n-433a-ra98-653deddc566c",
        "referenceId": "SUB00001",
        "submissionDateTime": "2023-03-07T12:00:11+08:00",
        "uploadedBy": "John_Smith",
        "submissionType": "Variation",
        "submissionStatus": "Valid",
        "totalIntervals": 4800,
        "marketServices": 6,
        "facilities": 1,
        "totalIntervalsGateClosure": 0,
        "submission": {...}
    }
}
```

Submissions/{submissionId}/status

This GET resource returns the status of a specified RTM or DSP submission. The submission is identified by the submissionId provided. The response includes the submission status and the validation results.

If the status is rejected or failed, a list of error messages and warnings is included in the response. Any warnings are also included in the response when the submission status is valid.

URL: GET /submissions/{submissionId}/status

Parameters
None

Responses
```
---- No errors or warnings
{
    "transactionId": "eae1f3f1-aegf-4d1d-5b04-af25a0fe98b4",
    "data": {
        "submissionId": "71274d69-211n-433a-ra98-653deddc566c",
        "submissionStatus": "Valid",
        "submissionDateTime": "2023-03-07T12:00:11+08:00"
    },
    "errors": [],
    "warnings": []
}


---- Errors and warnings
{
    "transactionId": "eae1f3f1-aegf-4d1d-5b04-af25a0fe98b4",
    "data": {
        "submissionId": "71274d69-211n-433a-ra98-653deddc566c",
        "submissionStatus": "Rejected",
        "submissionDateTime": "2023-03-07T12:00:11+08:00"
    },
    "errors": [
            {
            "code": "C019",
            "title": "Validation Error",
            "detail": "There are Dispatch Intervals beyond Acceptance Horizon. All
Dispatch Intervals must be within 2023-04-04T12:00:11+08:00",
            "source": null
            }
      ],
    "warnings": [
            {
            "code": "C050",
            "message": "There are Gate Closure violations within the submission."
                }
      ]
}
```

Submissions/{submissionId}/raw

Retrieves the original RTM or DSP submission sent by the MP.

URL: GET /submissions/{submissionId}/raw

Parameters
None

Response
```
---- Success

{
  "transactionId": "8d49ad97-b75e-4cee-938f-2216ed77468b",
  "data": {
    "submissionId": "2c825647-fd89-46a4-8dce-5937b45ca745",
    "submissionStatus": "Submitted",
    "submissionDateTime": "2021-11-18T10:32:44+08:00"
  }
}

---- Bad Request

{
  "transactionId": "8cbe073a-d5a0-4a92-bee8-ea0cf4318eea",
  "errors": [
    {
      "code": "ST001",
      "title": "Validation Error",
      "detail": "Submission content is not a valid JSON",
      "source": null
    }
  ]
}
```

POST submissions

RTM submissions (standing or variation) or DSP withdrawal profiles (standing or variation) from Market Participants are validated to ensure that only valid data is accepted and used in the central dispatch process.

All data submitted is reviewed and, if the submission does not meet all validation requirements, the entire submission is rejected, and the Market Participant notified of all detected errors. Conversely, if the submission meets all validation requirements, then the Market Participant is notified a valid submission. All submissions, whether rejected or valid, are recorded, however only data from valid submissions is processed for central dispatch process and market data recording.

Types of validation:

- submission elements against other elements within the submission
- submission elements against standing data (from registration)
- gate closure violations.

Elements validated:

- Common elements
- Energy objects (incl. dispatch intervals and tranches)
- ESS objects (incl. dispatch intervals and tranches).

When used with the POST method, the submissions resource allows MPs to make RTM submissions which conform to the JSON schema, as shown below.
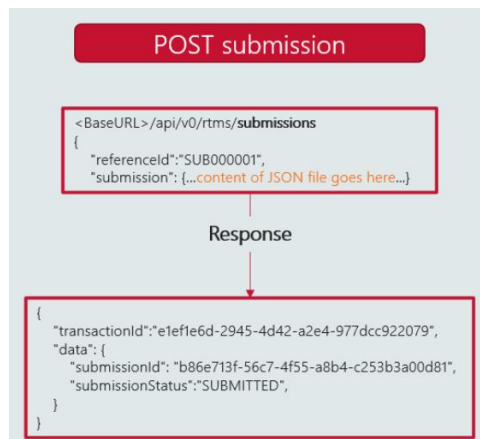
The system submits one RTM submission and waits for the validation response.

A timeout of 60 seconds is applied to this endpoint. If the call times out before validation response is returned, the submission status is returned as submitted.

Submissions

Submits one RTM submission asynchronously.

URL: POST /submissions

Parameters
None

Response

```
---- Success
{
  "transactionId": "8d49ad97-b75e-4cee-938f-2216ed77468b",
  "data": {
    "submissionId": "2c825647-fd89-46a4-8dce-5937b45ca745",
    "submissionStatus": "Submitted",
    "submissionDateTime": "2021-11-18T10:32:44+08:00"
  }
}

---- Bad Request
{
  "transactionId": "8cbe073a-d5a0-4a92-bee8-ea0cf4318eea",
  "errors": [
    {
      "code": "ST001",
      "title": "Validation Error",
      "detail": "Submission content is not a valid JSON",
      "source": null
    }
  ]
}
```

Submissions/waitForResult

A 60-second timeout is applied to this endpoint. If the call times out, a response, including submission ID and submission status, is returned regardless of whether the validation process has completed or not. If the call times out before validation response is returned, the submission status is returned as submitted.

This POST resource allows MPs to make a synchronous API RTM submission conforming to the JSON schema, then wait for the validation response. The response, containing the submission ID and the validation results, is returned after the RTMS validation process is completed.

URL: POST /submissions/waitForResult

Request

The *request body* is an application/json object with the properties described in the example request in the Swagger API documentation. The schema and Swagger can be accessed via the Reformer page Technical Specifications and Guides.

The *referenceId* in the request is optional, but if it is given, it must not exceed 100 characters.

The *submission property* must conform to the RTMS JSON schema for RTM submissions.

Responses

```
---- Success
{
    "transactionId": "eae1f3f1-aegf-4d1d-5b04-af25a0fe98b4",
    "data": {
        "submissionId": "71274d69-211n-433a-ra98-653deddc566c",
        "submissionStatus": "Valid",
        "submissionDateTime": "2023-03-07T12:00:11+08:00"
    },    "errors": [],
    "warnings": []
}
---- Errors and warnings
{
    "transactionId": "eae1f3f1-aegf-4d1d-5b04-af25a0fe98b4",
    "data": {
        "submissionId": "71274d69-211n-433a-ra98-653deddc566c",
        "submissionStatus": "Rejected",
        "submissionDateTime": "2023-03-07T12:00:11+08:00"
    },
    "errors": [
            {
            "code": "C019",
            "title": "Validation Error",
            "detail": "There are Dispatch Intervals beyond Acceptance Horizon. All
Dispatch Intervals must be within 2023-04-04T12:00:11+08:00",
            "source": null
            }
        ],
    "warnings": [
            {
            "code": "C050",
            "message": "There are Gate Closure violations within the submission."
                }
        ]
}
```

Submissions/dsp

Submits one RTM DSP submission asynchronously. This POST resource allows MPs to make a DSP submission conforming to the JSON schema.

URL: POST /submissions/dsp

Request

The request body is an application/JSON object with properties as described in the example request in the Swagger API documentation. The schema and Swagger can be accessed via the Reformer page Technical Specifications and Guides.

The referenceId in request is optional, but if given it must not exceed 100 characters.

The submission property must conform to the RTMS JSON schema for DSP facilities.

Response

```
{
  "transactionId": "e1ef1e6d-2945-4d42-a2e4-977dcc922079",
  "data": {
    "submissionId": "b86e713f-56c7-4f55-a8b4-c253b3a00d81",
    "submissionStatus": "Submitted",
    "submissionDateTime": "2021-07-01T08:30:00+08:00"
  }
}
```

Submissions/dsp/waitForResult

This POST resource allows MPs to make a synchronous API DSP submission conforming to the JSON schema and wait for the validation response. The response, containing the submission ID and the validation results, is provided after the validation process is completed.

A timeout of 60 seconds is applied to this endpoint. If the call times out, a response including, submission ID and submission status will be returned regardless of whether the validation process has completed or not. If the call times out before validation process is complete, a submission status of submitted is returned.

URL: POST /submissions/dsp/waitForResult

Request

The request body is an application/json object with the properties described in the example request in the Swagger API documentation. The schema and Swagger can be accessed via the Reformer page Technical Specifications and Guides.

The *referenceId* in the request is optional, but if given, it must not exceed 100 characters.

The submission property must conform to the RTMS JSON schema for DSP facilities.

Response

```
{
  "transactionId": "e1ef1e6d-2945-4d42-a2e4-977dcc922079",
  "data": {
    "submissionId": "b86e713f-56c7-4f55-a8b4-c253b3a00d81",
    "submissionStatus": "VALID",
    "submissionDateTime": "2021-07-01T17:35:22+08:00"
  },
  "errors": [],
  "warnings": []
}
```

Consolidated submissions

The consolidated submission for a Trading Day, Facility, and Market Service is the combination of applicable RTM submissions for that trading day, facility, and market service, which is published to WEMDE by RTMS.

The consolidated submission for any given dispatch interval, facility, and market service on a dispatch interval level is based on, in order of priority:

- The most recent variation submission covering that dispatch interval, facility, and market service.
- If no variation submission is applicable, the most recent standing submission covering that dispatch interval, facility, and market service.
- If no variation submission or standing submission is applicable, the consolidated submission will be blank for that interval.
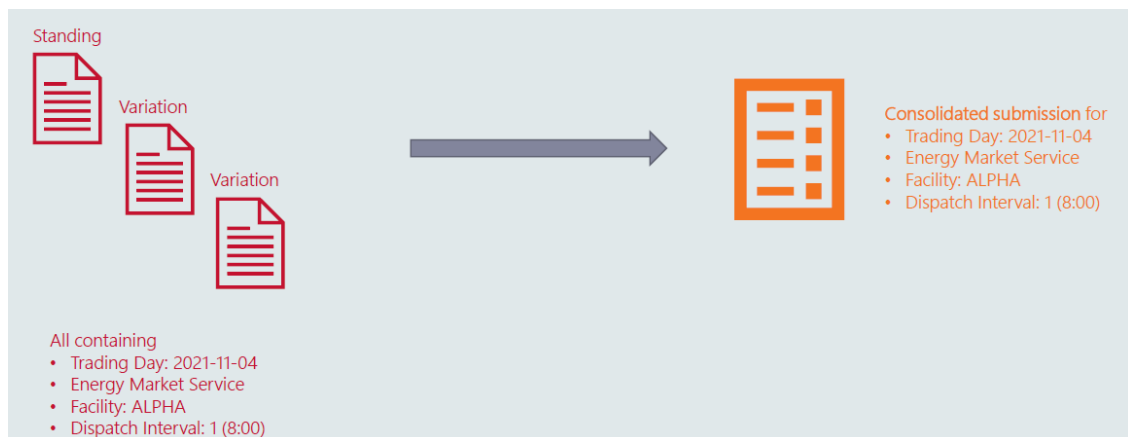
Consolidated/energy

This GET resource allows MPs to query the consolidated view of their RTM submissions made for the Energy Market Service for a specified trading day and facility. You cannot specify DSP facilities when using this resource.

URL: GET /consolidated/energy

Parameters

This table describes the parameters for consolidated energy and how to use them. You must use all three parameters to correctly return the consolidated view. If you do not, the submission give an error.

Parameter name	Description	Req	Format	Value
tradingDay	The consolidated view of submissions made for the specified trading day The trading day can be in the past or in the future Future dates are limited to the 28-day Acceptance Horizon window specified in the WEM procedure	Y	String	YYYY-MM-DD
facility	The consolidated view of submissions made for the specified facility	Y	String	Facility
marketService	This parameter must be set to "Energy". Returns the consolidated view of submissions made for the Energy Market Service	Y	String	Energy

Response

```
{
  "transactionId": "3de99d04-d347-4381-a4d6-62b19ef3e66e",
  "asAt": "2022-03-16T16:19:56.0745032+08:00",
  "data": [
    {
      "tradingDay": "2022-03-21",
      "dispatchIntervalNo": "1-288",
      "dispatchIntervalTimeFrom": "08:00",
      "dispatchIntervalTimeTo": "08:00",
      "unconstrainedInjectionForecast": 30,
      "unconstrainedWithdrawalForecast": 0,
      "maxInjectionCapacity": 30,
      "maxWithdrawalCapacity": 0,
      "inflexibleFlag": false,
      "maxUpwardRampRate": 8,
      "maxDownwardRampRate": 8,
      "fsip": {
        "minimumLoad": 0.001,
        "t1": 1,
        "t2": 1,
        "t3": 1,
        "t4": 1
      },
```

```json
      "tranches": [
        {
          "tranche": 1,
          "price": "MIN",
          "quantity": 5,
          "noticeTime": null,
          "capacityType": "IN-SERVICE",
          "fuelType": "NON-LIQUID"
        },
        {
          "tranche": 2,
          "price": "-25.00",
          "quantity": 10,
          "noticeTime": 5,
          "capacityType": "AVAILABLE",
          "fuelType": "NON-LIQUID"
        },
        {
          "tranche": 3,
          "price": "103.00",
          "quantity": 10,
          "noticeTime": 5,
          "capacityType": "AVAILABLE",
          "fuelType": "NON-LIQUID"
        },
        {
          "tranche": 4,
          "price": "MAX",
          "quantity": 5,
          "noticeTime": 5,
          "capacityType": "AVAILABLE",
          "fuelType": "NON-LIQUID"
        }
      ],
      "submissionType": "Variation",
      "submissionDateTime": "2022-03-16T16:16:09+08:00"
    }
  ]
}
```

Consolidated/ess

This GET resource allows MPs to query the consolidated view of the RTM submissions they have made for an ESS market service (regulation raise/lower, contingency raise/lower, ROCOF control service) for a specified trading day and facility. MPs cannot specify DSP facilities when using this resource.

URL: GET /consolidated/ess

Parameters

This table describes the parameters for consolidated ess and how to use them. You must use all three parameters to correctly return the consolidated view.

Parameter name	Description	Req	Format	Value
tradingDay	The consolidated view of submissions made for the specified trading day The trading day can be in the past or in the future Future dates are limited to the 28-day Acceptance Horizon window specified in the WEM procedure	Y	String	YYYY-MM-DD
facility	The consolidated view of submissions made for the specified facility	Y	String	Facility
marketService	The consolidated view of submissions made for the specified market service Only ESS market services are accepted	Y	String	Market service: • regulationRaise • regulationLower • contingencyRaise • contingencyLower • rocof

Response

```
{
  "transactionId": "5511acad-87e8-4e74-be75-0e477dd4e5aa",
  "asAt": "2022-03-16T16:23:46.9911042+08:00",
  "data": [
    {
      "tradingDay": "2022-03-21",
      "dispatchIntervalNo": "1-288",
      "dispatchIntervalTimeFrom": "08:00",
      "dispatchIntervalTimeTo": "08:00",
      "maximumCapacity": 23.1,
      "enablementMinimum": 10,
      "enablementMaximum": 15,
      "lowBreakpoint": 25,
      "highBreakpoint": 30,
      "tranches": [
        {
          "tranche": 1,
          "price": "-10.00",
          "quantity": 5,
          "noticeTime": null,
          "capacityType": "IN-SERVICE",
          "fuelType": "NON-LIQUID"
```

```json
      },
      {
        "tranche": 2,
        "price": "10.00",
        "quantity": 5,
        "noticeTime": 1,
        "capacityType": "IN-SERVICE",
        "fuelType": "NON-LIQUID"
      },
      {
        "tranche": 3,
        "price": "25.00",
        "quantity": 5,
        "noticeTime": 1,
        "capacityType": "IN-SERVICE",
        "fuelType": "NON-LIQUID"
      },
      {
        "tranche": 4,
        "price": "35.15",
        "quantity": 5,
        "noticeTime": null,
        "capacityType": "IN-SERVICE",
        "fuelType": "NON-LIQUID"
      },
      {
        "tranche": 5,
        "price": "MAX",
        "quantity": 3.1,
        "noticeTime": null,
        "capacityType": "IN-SERVICE",
        "fuelType": "NON-LIQUID"
      }
    ],
    "submissionType": "Variation",
    "submissionDateTime": "2022-03-16T16:16:09+08:00"
    }
  ]
}
```

Consolidated/dsp

This GET resource allows MPs to query the consolidated view of their DSP submissions made for a specified trading day and facility. You can only specify DSP facilities when using this resource.

URL: GET /consolidated/dsp

Parameters

This table describes the parameters required to query consolidated DSP submissions:

Parameter name	Description	Req	Format	Value
tradingDay	The consolidated view of submissions made for the specified trading day The trading day can be in the past or in the future. Future dates are limited to the 28-day Acceptance Horizon window specified in the WEM procedure	Y	String	YYYY-MM-DD
facility	The consolidated view of submissions made for the specified facility. Facility must be a DSP facility	Y	String	DSP Facilities only
marketService	The consolidated view of submissions made for the energy market service	Y	String	Must be set to 'Energy'

Response

```
{
  "transactionId": "9d44a32c-13f6-4e24-a39f-f4b04d7aec6b",
  "asAt": "2022-03-16T16:30:17.5853262+08:00",
  "data": [
    {
      "tradingDay": "2022-03-23",
      "dispatchIntervalNo": "1-288",
      "dispatchIntervalTimeFrom": "08:00",
      "dispatchIntervalTimeTo": "08:00",
      "dspUnconstrainedWithdrawalQuantity": 25,
      "dspConstrainedWithdrawalQuantity": 25,
      "submissionType": "Variation",
      "submissionDateTime": "2022-03-16T16:29:40+08:00"
    }
  ]
}
```

Consolidated

Retrieves the consolidated view of RTM submissions for up to 10 trading days, for all six market services, and all (or specified) facilities.

URL: GET /consolidated

Parameters

You must use both the *tradingDayFrom* and *tradingDayTo* parameters to correctly return the consolidated view.

Parameter name	Description	Req	Format	Value
tradingDayFrom	The consolidated view of submissions made for the specified trading day range (maximum 10 days) The trading day can be in the past or in the future Future dates are limited to the 28-day Acceptance Horizon window specified in the WEM procedure	Y	String	YYYY-MM-DD
tradingDayto	The consolidated view of submissions made for the specified trading day range (maximum 10 days) The trading day can be in the past or in the future. Future dates are limited to the 28-day Acceptance Horizon window specified in the WEM procedure	Y	String	YYYY-MM-DD
Facilities	Optional parameter allowing multiple facilities to be selected. Will default to all facilities if not selected. Individual facilities can be selected as comma-separated values	N	String	Facility

Response

```
{
  "transactionId": "5511acad-87e8-4e74-be75-0e477dd4e5aa",
  "asAt": "2022-03-16T16:23:46.9911042+08:00",
  "data": [
    {
      "applicability": [
        {
          "tradingDate": "2022-12-05",
          "dispatchIntervalFrom": 1,
          "dispatchIntervalTo": 19
        },
        {
          "tradingDate": "2022-12-06",
          "dispatchIntervalFrom": 1,
          "dispatchIntervalTo": 288
        }
```

```
    ],
    "facility": "MyTestFacility1",
    "marketService": "Energy",
    "submissionId": "b0260932-a61f-4faf-a309-8f61e800976b",
    "submissionType": "Variation",
    "submissionCode": "OTHER",
    "submissionDateTime": "2022-11-21T11:28:46.8380175+08:00",
    "energy": {
      "unconstrainedInjectionForecast": 16,
      "unconstrainedWithdrawalForecast": 0,
      "maxInjectionCapacity": 16,
      "maxWithdrawalCapacity": 0,
      "inflexibleFlag": "NO",
      "maxUpwardRampRate": 3,
      "maxDownwardRampRate": 3,
      "fsip": null,
      "tranches": [
        {
          "tranche": 1,
          "price": "MIN",
          "quantity": 0.1,
          "noticeTime": null,
          "capacityType": "IN-SERVICE",
          "fuelType": "NON-LIQUID"
        },
        {
          "tranche": 2,
          "price": "MAX",
          "quantity": 15.9,
          "noticeTime": null,
          "capacityType": "IN-SERVICE",
          "fuelType": "NON-LIQUID"
        }
      ]
    },
    "ess": null,
    "dsp": null
  },
  {
    "applicability": [
      {
        "tradingDate": "2022-12-05",
        "dispatchIntervalFrom": 20,
        "dispatchIntervalTo": 38
      }
    ],
    "facility": "MyTestFacility2",
    "marketService": "RegulationRaise",
    "submissionId": "b0260932-a61f-4faf-a309-8f61e800976b",
    "submissionType": "Standing",
    "submissionCode": null,
    "submissionDateTime": "2022-11-21T11:28:46.8380175+08:00",
```

```json
      "energy": null,
      "ess": {
        "maximumCapacity": 59.4,
        "enablementMinimum": 10,
        "enablementMaximum": 30,
        "lowBreakpoint": 15,
        "highBreakpoint": 25,
        "tranches": [
          {
            "tranche": 1,
            "price": "-100.99",
            "quantity": 29.4,
            "noticeTime": null,
            "capacityType": "IN-SERVICE",
            "fuelType": "NON-LIQUID"
          },
          {
            "tranche": 2,
            "price": "-50.35",
            "quantity": 30,
            "noticeTime": null,
            "capacityType": "IN-SERVICE",
            "fuelType": "NON-LIQUID"
          }
        ]
      },
      "dsp": null
    }
  ]
}
```

Gate closure violation

GateClosureViolation

Retrieves a list of dispatch intervals submitted within gate closure. The data returned can be queried based on criteria specified by one or more query parameters.

URL: GET /gateClosureViolation

Parameters

This table describes the parameters for gate closure violations and how to use them:

Parameter name	Description	Req	Format	Value
dateTimeFrom	Returns submissions made after the specified date. If no date is specified, the default is set to the previous 24 hours	*Yes	String ($date)	YYYY-MM-DD *if dateTimeto specified
dateTimeTo	Filter the dispatch intervals up until the selected datetime is submitted within gate closure Defaults to the current date and time Note: *dateTimeto* must be equal to or greater than *dateTimeFrom*	#Yes	String ($date)	YYYY-MM-DD #if dateTimefrom specified
facility	Filters gate closure violations for the specified registered facility	N	String	
marketService	Filters gate closure violations for the specified market service	N	String	Market service: • energy • regulationRaise • regulationLower • contingencyRaise • contingencyLower • rocof

Response

```
{
  "transactionId": "703a67b3-3108-41de-93a8-25abfdf7237b",
  "data": [
    {
      "submissionId": "6e4140f1-5273-4ea8-ad6b-f782469bfd1d",
      "referenceId": "GCV_TEST",
      "tradingDay": "2021-11-23",
      "dispatchIntervalFrom": "23:05",
      "dispatchIntervalTo": "23:10",
      "participant": "PARTICIPANT",
      "facility": "FACILITY_NAME",
      "marketService": "ContingencyLower",
      "submissionDateTime": "2021-11-23T23:01:34+08:00",
      "submittedPrice": "-10.00,10.00,25.00,35.15,MAX",
      "submittedQty": "5.000,5.000,5.000,5.000,3.000",
      "uploadedBy": "USERNAME"
    }
  ]
}
```

Http responses

The http responses that you may see during testing are listed in the following table:

Parameter name	Description	Req
200	Success Response	JSON
400	Bad Request	No response payload.
401	API Authentication failure	JSON
404	No records found matching the criteria	No response payload.
405	Method not allowed	JSON
429	Too many requests	JSON
500	Internal Server Error. Exception from back-end system.	No response payload.

Glossary

Term	Definition
AEMO	Australian Energy Market Operator
Dispatch Instructions	A Dispatch Instruction is an instruction issued by AEMO to a MP, other than Synergy in respect of its Balancing Portfolio, directing that the MP vary the output or consumption of one of its Registered Facilities
DSP	Demand Side Programme
HTTP	Hyper Text Transfer Protocol
HTTPS	Hypertext Transfer Protocol (HTTP) for secure communication. In HTTPS, the communication protocol is encrypted using Transport Layer Security (TLS), or formerly, its predecessor, Secure Sockets Layer (SSL).
JSON	JavaScript Object Notation
LFAS	Load Following Ancillary Service
Market Customer	A Rule Participant registered as a Market Customer
Market Generator	A Rule Participant registered as a Market Generator
Market Participant	A Rule Participant that is a Market Generator or a Market Customer.
MPI	Market Participant Interface
Network Limit	A limitation or requirement on a Network that gives rise to a Network Constraint.
Non-Balancing Dispatch Merit Order	An ordered list in which the Demand Side Programmes registered by MPs will be issued Dispatch Instructions
Operational Demand	Operational Demand is the average measured total of all wholesale generation from registered Facilities in the SWIS and is based on non-loss adjusted sent out SCADA data.
Operational Measurements	System Management provide near-real time operational measurements to AEMO.
Participant Notice	A notice issued electronically to an MP
Rule Participant	Any person registered as a Rule Participant in accordance with AEMO.
Swagger	Swagger is a tool that enables the design and documentation of APIs
URL	Uniform Resource Locator is a path through which a resource can be located, and some actions can be performed on it.
WA	Western Australia
WEM	Wholesale Electricity Market
WEM Procedure owners	AEMO, the Coordinator of Energy, the Network Operator, and the ERA
WEM Regulations	Electricity Industry (Wholesale Electricity Market) Regulations 2004.
WEM Rules	These rules relating to the Wholesale Electricity Market and to the operation of the SWIS. (www.wa.gov.au)