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# Guide to FTP Energy, FCAS, and MNSP Bids and Offers

**Version 1.00**

**August 2021**

Describes how to submit JSON schema Energy,  
FCAS, and MNSP bids and offers by FTP

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# Important Notice

## **PURPOSE**

This Guide to FTP Energy, FCAS, and MNSP Bids and Offers (Guide), prepared by AEMO, provides guidance for Dispatch Bid/Offer Submissions under the National NEM (Rules).

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## **VERSION HISTORY**

Version 1.00 Replaces the Format and Validation for Energy, FCAS, and MNSP Bids and Offers, focusing on FTP bid/offer submission.

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## **DOCUMENTS MADE OBSOLETE**

The release of this document changes any previous versions of Guide to FTP Energy, FCAS, and MNSP Bids and Offers • Format and Validation for Energy, FCAS, and MNSP Bids and Offers and • Participant Input Interface Energy - MNSP, FCAS Bid File Submission.

# Contents

<b>Introduction</b> .....	<b>1</b>
Purpose .....	1
Audience .....	1
What's in this guide .....	2
How to use this guide .....	3
<b>Need to Know</b> .....	<b>5</b>
Related rules, procedures, and guidelines .....	5
Related resources .....	6
Assumed knowledge .....	6
Prerequisites .....	6
Dispatch Bid/Offer Submissions user rights access .....	7
<b>About Dispatch Bid/Offer Submissions</b> .....	<b>9</b>
Dispatch offers and bids explanation .....	9
What the Dispatch Bid/Offer Submissions is for .....	10
Who can use the Dispatch Bid/Offer Submissions .....	11
How to use the Dispatch Bid/Offer Submissions .....	11
<b>Dispatch Bid/Offer Submissions Explained</b> .....	<b>18</b>
Dispatch Bid/Offer Submissions design .....	19
Bid/offer processing order .....	20
Bid/offer format .....	20

Bid/Offer Cut-off time .....	20
Service types .....	20
Submission details .....	21
Rebid explanation .....	22
<b>Submitting a Dispatch Bid/Offer by FTP .....</b>	<b>23</b>
FTP bid/offer response .....	24
FTP valid or invalid bid/offer submission .....	26
<b>Example Validation Messages .....</b>	<b>27</b>
<b>Needing Help .....</b>	<b>33</b>
AEMO's support hub .....	33
Feedback .....	34
<b>Terms .....</b>	<b>35</b>
Rules and Procedure Terms .....	35
Glossary .....	36
<b>References .....</b>	<b>41</b>
Data interchange and data model resources .....	41
<b>Index .....</b>	<b>42</b>

# Introduction

Purpose .....	1
Audience .....	1
What's in this guide .....	2
How to use this guide .....	3

## Purpose

This Guide describes how to prepare and submit your Dispatch Bid/Offer Submissions by FTP.

## Audience

The primary audience is:

- Developers of systems handling Energy, FCAS, and MNSP Bids/Offer.
- Market Participants submitting and maintaining Energy, FCAS, and MNSP Bids/Offer using FTP.

The secondary audience is business users requiring an understanding of the FTP Dispatch Bid/Offer Submissions.

# What's in this guide

This guide explains how to submit JSON schema Dispatch Bid/Offer submissions by FTP. For help submitting Bid/Offer by:

- Web, see [Guide to Web Energy, FCAS, and MNSP Bids and Offers](#).
- API, see [NEM Dispatch Bidding API documentation](#).

[Need to Know on page 5](#) explains how the terms Dispatch Bids and Offers are used throughout this guide, the skills required to complete and submit bids, lists the related Rules and procedures, and provides the entity required for Participant User access.

[About Dispatch Bid/Offer Submissions on page 9](#) explains what the Dispatch Bid/Offer Submissions is for, who can use it, how to use it, and the submission rules.

[Dispatch Bid/Offer Submissions Explained on page 18](#) explains the design, format, processing order, submission level information, valid, and invalid Dispatch Bid/Offer Submissions.

[Submitting a Dispatch Bid/Offer by FTP on page 23](#) explains the Dispatch Bid/Offer Submissions, acknowledgement, and response by FTP.

[Example Validation Messages on page 27](#) explains the validation messages received in a response.

[Needing Help on page 33](#) provides information about how to contact AEMO's Support Hub.

[Terms on page 35](#) provides a list of National Electricity Rules (NER) terms and definitions for the capitalised terms used throughout this guide.

[References on page 41](#) provides a list of references used throughout this guide.

# How to use this guide

- For an explanation of the terms Offer and Bid used throughout this Guide, read [Dispatch offers and bids explanation on page 9](#).
- For details about the JSON schema fields, objects, data types, validation, examples, search scenarios, and schema download, see [NEM Dispatch Bidding API documentation](#).
- This help 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.
- Where there is a discrepancy between the relevant Procedures and information or a term in this document, the Procedures take precedence.
- The references listed throughout this document are primary resources and take precedence over this document.
- **Text in this format** indicates a resource on AEMO's website.
- **Text in this format** indicates a hyperlink. Only Registered Participants can access some hyperlinks. Unregistered participants can search for guides on [AEMO's website](#).
- **Text in this format** is an action to complete in the Markets Portal interface.
- Glossary terms are capitalised and have the meanings listed against them on [Page 36](#).
- Rules terms used throughout this guide are listed on page [Page 35](#) and defined in the [National Electricity Rules](#).
- The numbers on the example screenshots throughout this guide refer to the numbered explanations in the topic.
- Diagrams and screenshots are provided as examples. In case of ambiguity between a diagram and the text, the text prevails.
- References to time are Australian Eastern Standard time (AEST) unless

otherwise specified.

- References to currency are to Australian dollars.



# Need to Know

Related rules, procedures, and guidelines .....	5
Related resources .....	6
Assumed knowledge .....	6
Prerequisites .....	6
Dispatch Bid/Offer Submissions user rights access .....	7

## Related rules, procedures, and guidelines

Name	Location
Dispatch inflexibilities	NER Clause 3.8.19
Introduction to Market Rules	NER Chapter 3
Market Floor Price	NER clause 3.9.6
Market Price Cap	NER clause 3.9.4
MNSP Convexity Rule	NER clause 3.8.6A(e)
Provision of ramp rates	NER clause 3.8.3A(e)
Rebidding	NER clause 3.8.22(c)(2)
Rebidding and Technical Parameters Guideline	<a href="#">AER website</a>

## Related resources

The following guides are companions to this guide, describing how to use the other interfaces to submit Dispatch Bid/Offer Submissions:

1. [NEM Dispatch Bidding Open API Specification](#)
2. [Guide to Web Energy, FCAS, and MNSP Bids and Offers](#)

## Assumed knowledge

This guide assumes you have knowledge of:

- JSON basics
- Knowledge of the FTP protocol
- The operating system you are using
- [Connecting to AEMO's Electricity IT systems](#)

## Prerequisites

Before you can use Dispatch Bid/Offer Submissions you must:

1. Understand the procedures governing the operation of the market relating to wholesale trading of electricity and the provision of ancillary services. For details, see the [NER Chapter 3, Introduction to Market Rules](#).

2. Have a Participant ID with access to MarketNet. If your company is a Registered Participant, you already have access because it is set up during the registration process. For more details, see [Guide to Information Systems](#).
3. A user ID and password with access to Dispatch Bid/Offer Submissions provided by your company's participant administrator (PA) who controls access to AEMO's market systems. For more details see [Dispatch Bid/Offer Submissions user rights access below](#).
4. Know your Dispatchable Unit Identifier (DUID) or LinkID.
5. The Participant File Server address, see [FTP participant file server addresses on page 12](#).

# Dispatch Bid/Offer Submissions user rights access

## Participant administration

For details about participant administration and user rights access, see [Guide to User Rights Management](#).

Participant Administrators (PAs) authorise Participant User access in MSATS. The initial PA is set up by the AEMO system administrator as part of the registration process.

The entity required to access Dispatch Bid/Offer Submissions using any of the interfaces is:

EMMS - Offers and Submissions - Energy FCAS MNSP Bids.

## MarketNet access

Participant Users submitting Dispatch Bid/Offer Submissions via FTP or web require access to AEMO's private network, MarketNet.

For help, see [Guide to Information Systems](#).

# About Dispatch Bid/Offer Submissions

- Dispatch offers and bids explanation ..... 9
- What the Dispatch Bid/Offer Submissions is for ..... 10
- Who can use the Dispatch Bid/Offer Submissions ..... 11
- How to use the Dispatch Bid/Offer Submissions .....11

## Dispatch offers and bids explanation

AEMO's interfaces use the terms Bids and Offers interchangeably. For simplicity, the Dispatch Bid/Offer Submissions interface uses the term Bid to refer to both Bids and Offers. For participant understanding, below is the official definition of the terms.

### Bid

Bid means an Energy Dispatch Bid and the Dispatch of a Scheduled Load.

All terms have the meaning given to them in the National Electricity Rules (NER).

# Offer

Offer means one of the following Dispatch Offers:

1. Energy (Generation Dispatch Offer)
2. Frequency Control Ancillary Service (FCAS):
  - a. Raise 6 seconds
  - b. Raise 60 seconds
  - c. Raise 5 minutes
  - d. Raise regulation
  - e. Lower 6 seconds
  - f. Lower 60 seconds
  - g. Lower 5 minutes
  - h. Lower regulation
3. Market Network Service Provider (MNSP - Network Dispatch Offer)

## What the Dispatch Bid/Offer Submissions is for

Effective Dispatch Bid/Offer Submissions are used in the Dispatch process.

Use the JSON Dispatch Bid/Offer Submissions format to submit and maintain Energy, Frequency Controlled Ancillary Services (FCAS), and Market Network Service Provider (MNSP) Bid/Offer to your chosen interface.

# Who can use the Dispatch Bid/Offer Submissions

Authorised Market Participants can use Dispatch Bid/Offer Submissions in accordance with the National Electricity Rules (NER).

Access to submit Dispatch Bid/Offer Submissions requires credentials provided by your company's Participant Administrator. For help, see [Dispatch Bid/Offer Submissions user rights access on page 7](#).

# How to use the Dispatch Bid/Offer Submissions

## Interfaces

You can submit Dispatch Bids/Offers using the following interfaces:

1. API to AEMO's e-Hub. For details, see [NEM Dispatch Bidding API documentation](#).
2. FTP to your participant folders on the Participant File Server for Energy, FCAS, and MNSP Bids/Offers. Recommended for a large amount of Submissions.

Before attempting any changes or operations on production systems, AEMO encourages participants to use the pre-production environment to test procedures and to train Participant Users.

To automate FTP submission of the Dispatch Bid/Offer Submissions, you can set up Data Interchange (see [Data Interchange Online Help](#)).

3. Markets Portal > Format and Validation for Energy, FCAS, and MNSP Bids and Offers web interface to submit (see [Guide to Web Energy, FCAS, and MNSP Bids and Offers](#)):
  - a. Energy and FCAS Bids/Offers directly in the web interface. MNSP participants cannot input Bids/Offers directly in the web interface). Recommended for a small amount of Submissions.
  - b. JSON Bid Files for upload if the FTP or API interfaces are unavailable. MNSP participants have access to the Upload Bid File interface only.

## Viewing or retrieving FTP submissions

You can retrieve a valid submitted file from the [Participant File Server\ParticipantID\Import\MasterBids](#) folder (files are archived after 15 days).

## FTP participant file server addresses

Environment	MarketNet Address
Pre-production	<a href="ftp://146.178.211.25">ftp://146.178.211.25</a>
Production	<a href="ftp://146.178.211.63">ftp://146.178.211.63</a>



## FTP submission rules

- The Dispatch Bid/Offer Submissions is a JSON schema submitted in compressed file format. For help, see [FTP compressed file format on the next page](#).
- The Participant ID must be valid.

## FTP processing order for multiple files

If there is more than one file in your Participant ID \Export\Bids\ folder, the Participant File Server processes files in ascending order according to the file modified date.

## FTP Bid/offer filename

The Dispatch Bid/Offer Submissions filename identifies the participant, the date and time of Dispatch Bid/Offer Submissions submission. Each Dispatch Bid/Offer Submissions file has BID in the filename matching the windows search string BID.json or BID.zip.

A filename must be unique. You cannot submit a file with the same filename twice. Resubmission of a file with the same name results in an error.

**An acceptable filename is <= 60 characters including the extension.**

FTP bid/offer filename example:

```
PART1_FCASBIDFTP_20180101231145.zip
```

## FTP bid/offer filename components

Field	Description
PART1	An assigned ID for the participant submitting the Dispatch Bid/Offer Submissions file.
BID	Identifies it as a Dispatch Bid/Offer Submissions. It may have additional characters before or after this fixed part, such as the submission interface used
Date and time of Dispatch Bid/Offer Submissions	<p>A date reference for participants to relate to the settlement or offer date/time.</p> <p>The date is in the form YYYYMMDD or YYYYMMDDhhmmss (4 digit year, 2 digit month, 2 digit day, 2 digit hour in 24-hour count, 2 digit minute and 2 digit second).</p> <p>There is no validation of file contents with this date.</p>
Extension	<p>zip</p> <p>Included in the filename size of &lt;= 60 characters</p>

## FTP compressed file format

Compressed FTP files conform to the following rules:

- They must contain only one JSON schema.
- The compressed filename must be zip.

## Indicating no value for optional fields

In the JSON format, to indicate no value for optional fields, you must remove the entire attribute.

## FTP Throttling limit

If you have not implemented the TimeStamp(3) data type (see [Oracle databases below](#)), when Bidding files are processed, AEMO's systems throttle processing to one Submission per second per Participant ID. This restriction is due to an existing legacy limit in the Data Model bidding tables, relying on the field OfferDate in the primary key. So if you submit multiple JSON files via the FTP interface you might observe queued files clearing slowly, this is the consequence of the FTP throttling limit.

## Oracle databases

For Oracle databases the OfferDate field is a DATE data type not supporting fractional seconds. The DATE restriction originates from the original delivery of the Data Model that assumed an Oracle implementation because it was near universal at the time.

The Five Minute Settlement (5MS) Data Model (v5.00) upgraded the OfferDate column, DATE data type to Timestamp(3) to support fractional seconds (to three decimal places).

Once the change is implemented for all Oracle participant systems AEMO can lift the restriction. To ensure global compliance, this is expected about a year from the 5MS implementation.

This change impacts the following tables and fields:

1. BIDOFFERFILETRK.OFFERDATE
2. BIDDAYOFFER.OFFERDATE
3. BIDOFFERPERIOD.OFFERDATETIME (new 5MS table)
4. MNSP\_DAYOFFER.OFFERDATE
5. MNSP\_BIDOFFERPERIOD.OFFERDATETIME (new 5MS table)
6. DISPATCHOFFERTRK.BIDOFFERDATE
7. DISPATCH\_MNSPBIDTRK.OFFEREFFECTIVEDATE
8. PREDISPATCHOFFERTRK.BIDOFFERDATE
9. PREDISPATCH\_MNSPBIDTRK.OFFERDATE

## Microsoft SQL Server databases

The field definition for SQL Server databases does not suffer this restriction

## Oracle PDR loader properties file changes

For participants running Oracle databases with pdrLoader v7.4.1 or earlier, to accommodate the new Timestamp data type you must add the following statement to the pdrLoader properties file (see [Figure 1 on the next page](#)):

```
db_conn_init_sql=ALTER SESSION SET NLS_TIMESTAMP_
FORMAT='YYYY/MM/DD HH24:MI:SS.FF3'
```

This is not required for participants running SQL databases or pdrLoader v7.4.2 or above.

Figure 1 pdrLoader properties file

```

#####
#   JDBC server handler parameters
#
#   databasename           The database to connector to.
#   sendStringParametersAsUnicode  Performance to avoid unicode conversion between client and server.
#                               Default is false
#   SelectMode             Performamce parameter
#                               Default is Cursor
#
#####

db_url=jdbc:oracle:thin:@<host>:1521/<sid>
db_properties=defaultRowPrefetch=10,defaultBatchValue=10
db_handler=au.com.nemmco.Util.DbHandlerOracle
db_driver=oracle.jdbc.driver.OracleDriver
db_date_format=YYYY/MM/DD HH24:MI:SS
db_conn_init_sql=ALTER SESSION SET NLS_TIMESTAMP_FORMAT='YYYY/MM/DD HH24:MI:SS.FF3'

# Oracle thin

#   db_url=jdbc:oracle:thin:@<host>:1521:<sid>
#   Following db_url example is for Pluggabe Database (PDB) in Oracle 12c Container Database (CDB)
#   db_url=jdbc:oracle:thin:@<host>:1521/<sid>
#   db_properties=defaultRowPrefetch=10,defaultBatchValue=10
#   db_handler=au.com.nemmco.Util.DbHandlerOracle
#   db_driver=oracle.jdbc.driver.OracleDriver
#   db_date_format=YYYY/MM/DD HH24:MI:SS

```

# Dispatch Bid/Offer Submissions Explained

Dispatch Bid/Offer Submissions design .....	19
Bid/offer processing order .....	20
Bid/offer format .....	20
Bid/Offer Cut-off time .....	20
Service types .....	20
Submission details .....	21
Rebid explanation .....	22

# Dispatch Bid/Offer Submissions design

## JSON schema format

The Dispatch Bid/Offer Submissions is a JSON schema, supporting:

1. Bids and Offers for multiple Trading Days and DUIDs.
2. Provision of Energy, FCAS and MNSP bids/offers in the same Submission.
3. Separate formats for different Service Types so you don't need to include unrequired fields.
4. Provision of all Service Types in the same Dispatch Bid/Offer Submissions.
5. Modern technologies natively supporting JSON.

For details about the JSON schema fields, objects, data types, validation, examples, search scenarios, and schema download, see [NEM Dispatch Bidding API documentation](#).

## JSON syntax

- Data is in name and value pairs.  
The name in double quotes is followed by a colon and then a value.
- Data is separated by commas.
- Curly braces hold objects.
- Square brackets hold arrays.

# Bid/offer processing order

Dispatch Bid/Offer Submissions are processed by AEMO in the order they are received. You must ensure the correct submission order so your latest Dispatch Bid/Offer Submissions is the Effective Dispatch Bid/Offer Submissions acknowledged by AEMO's systems.

## Bid/offer format

You can submit 5-minute Dispatch Bids in a JSON format for FTP, API (compressed or uncompressed), and web upload.

## Bid/Offer Cut-off time

- A Daily Bid/Offer is one submitted **before** the Bid/Offer Cut-off Time.
- A Rebid is a Bid/Offer submitted **after** the Bid/Offer Cut-off Time.

The Bid/Offer Cut-off Time is 12:30 pm the day before the Trading Day.

## Service types

1. Energy
2. Frequency Controlled Ancillary Services (FCAS)
  - Raise 6 seconds
  - Raise 60 seconds



- Raise 5 minutes
  - Raise regulation
  - Lower 6 seconds
  - Lower 60 seconds
  - Lower 5 minutes
  - Lower regulation
3. Market Network Service Provider (MNSP)

## Submission details

To support multiple bids for different Service Types, every Dispatch Bid/Offer Submissions can supply the following information in the submitBids request:

1. energyBids: Contains at least one Energy Service Type.
2. fcasBids: Contains at least one of the following FCAS Service Types, see [Service types on the previous page](#).
3. mnsdBids: Contains at least one MNSP Service Type.

Dispatch Bid/Offer Submissions can have one or more Bid/Offer in 1 schema file, but cannot have more than one Dispatchable Unit Identifier for the same Service Type and Trading Day.

For details about the JSON schema fields, objects, data types, validation, examples, search scenarios, and schema download, see [NEM Dispatch Bidding API documentation](#).

If you submit multiple bids for a day, the latest acknowledged Dispatch Bid/Offer Submissions applies.

## Rebid explanation

The Rebid Explanation element outlines the detail required for a Rebid submitted to AEMO. For an example, see [NEM Dispatch Bidding API documentation](#).

For details about rebidding and the process for requesting additional information to verify the rebid reasons, see [Rebidding and Technical Parameters Guideline](#).

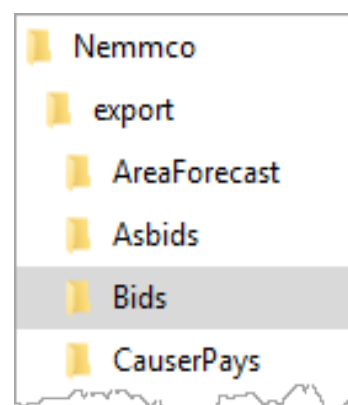
# Submitting a Dispatch Bid/Offer by FTP

<a href="#">FTP bid/offer response</a>	24
<a href="#">FTP valid or invalid bid/offer submission</a>	26

To submit a Dispatch Bid/Offer by FTP:

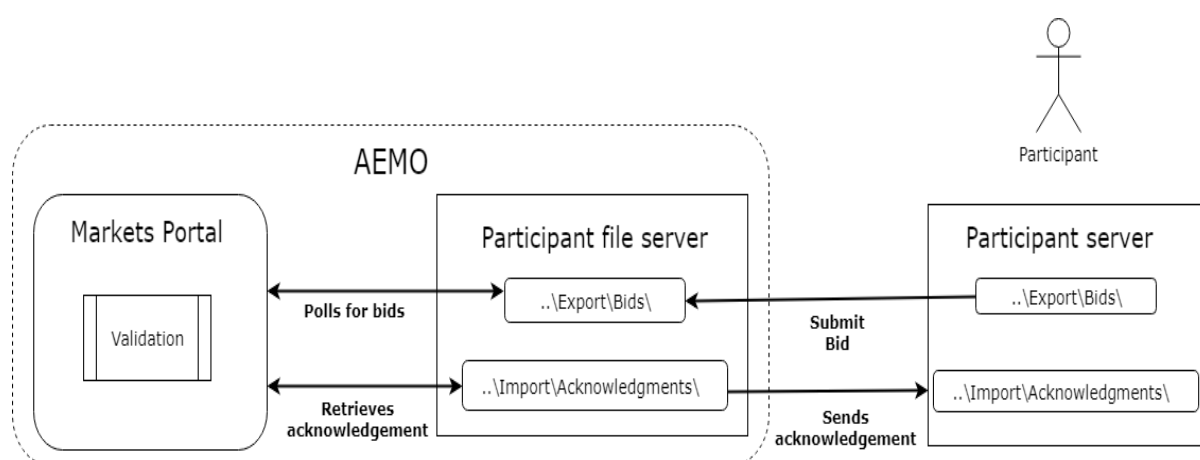
1. Create your JSON schema Dispatch Bid/Offer Submissions. For AEMO to accept your submission the entire schema must be valid. For details about the JSON schema fields, objects, data types, validation, examples, search scenarios, and schema download, see [NEM Dispatch Bidding API documentation](#).
2. Compress your file and name it with a tmp extension.  
This ensures you have transferred it before AEMO processes it.  
FTP Dispatch Bid/Offer Submissions must comply with the file naming convention and format. For help, see [FTP Bid/offer filename on page 13](#).
3. Transfer the compressed file to your [ParticipantID\Export\Bids\](#) folder on the Participant File Server.

You can use FTP or Data Interchange software to transfer your file. For details, see [Data Interchange Online Help](#).



4. In the `ParticipantID\Export\Bids\`, rename your compressed file with a zip extension.  
AEMO constantly polls this folder looking for Dispatch Bid/Offer Submissions with zip extensions to process.
5. Next, see [FTP bid/offer response below](#).

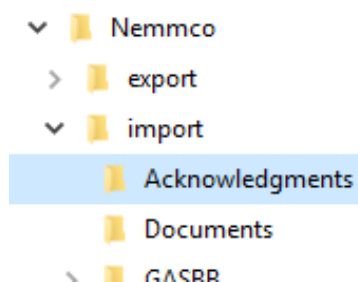
Figure 2 submitting bid/offers using FTP



## FTP bid/offer response

After submission:

1. AEMO validates every submission, including format checking and value comparisons with previously accepted Bid/Offer. A Rebid is subject to additional validation.



2. AEMO acknowledges all Dispatch Bid/Offer Submissions with 1 of the following JSON responses sent to your **ParticipantID\Import\Acknowledgments** folder on the Participant File Server:
  - An ACK (valid) file: The submission is successfully validated and accepted by AEMO.
  - A CPT (invalid) file: The submission failed validation and AEMO did not accept it. Corrupt or invalid (CPT file) submissions are not saved to the database. For details, see [FTP valid or invalid bid/offer submission on the next page](#).
3. AEMO removes the original submission from your **ParticipantID\Export\Bids\** folder.
4. For an Effective Bid/Offer, you must receive a valid acknowledgement from AEMO. Check your submission status and if required, resolve any issues and resubmit your file. For help, see [Example Validation Messages on page 27](#).
5. Delete the ACK (valid) or CPT (invalid) acknowledgement file from your **ParticipantID\Import\Acknowledgments** folder.
6. Immediately after submission, on the Participant File Server > **ParticipantID\Import\CSV\Reports** folder, you receive a private NEM\_BIDS file with your submission information. For details about Data Model reports, see Electricity Data Model in [NEM Dispatch Bidding Open API Specification](#).

# FTP valid or invalid bid/offer submission

## Valid bid/offer

If the **entire** submission is valid, AEMO places on the Participant File Server:

1. A <bid\_file\_name>\_ACK file to your [ParticipantID\Import\Acknowledgments](#) folder. The acknowledgement is a compressed file called ACK.zip containing an ACK.json file.
2. A <bid\_file\_name>.TXT to your [ParticipantID\Import\MasterBids](#) folder. Files are archived after 15 days.
3. A NEM\_BIDS file to your [ParticipantID\Import\CSV\Reports](#) folder on the Participant File Server. This report conforms to the Electricity Data Model, for details about the tables in this report, see Electricity Data Model > Bids package in [NEM Dispatch Bidding API documentation](#).

For valid and invalid Bid/Offer response examples, see [NEM Dispatch Bidding API documentation](#).

## Invalid bid/offer

If **any** of the submission contains invalid data, the whole Bid/Offer is rejected and a <bid\_file\_name>\_CPT file returns. The response is a compressed file called CPT.zip containing a CPT.json file. It indicates all detected errors. No other files are sent and invalid Bid/Offers are not saved to the database.

# Example Validation Messages

The following validation messages are examples only and may differ from the ones you see in:

1. API responses
2. The Markets Portal interface
3. In the ack/cpt for FTP Bid/Offer submissions

Message	Check
{0} cannot be negative	Negative availability value
{0} cannot submit bid for link {1} as related interconnector participant cannot be found	Participant ID can submit bids for this Interconnector
{0} cannot submit file for link {1}	Participant ID can submit bids for this Interconnector
Band availability figures cannot be negative	Band availabilities are positive or zero
Band availability must be <= Maximum Capacity {1}	Band availability is less than or equal to the maximum capacity
Bid must contain period ID 1 to 288	Bid/offer has period IDs 1-288

Message	Check
Cannot correct MPC Rebid - price bands must increase progressively	Each price band is > previous price band
Cannot Process Participant Offer	If bid/offer is after the rebid cut-off time
Daily energy constraint must be less than 1 million MWh	Daily energy constraint < 1 million MWh
DUID {0} has conflicting registration information (start type) and an energy offer cannot be accepted	DUID start type is consistent with registration details
DUID {0} is invalid or not active	Dispatchable unit details
DUID {0} is not registered for {1}	DUID details are consistent with registration details
DUID {0} is not registered for ENERGY	DUID is registered for the energy service type
Fast start details must be non-blank for fast start units	Fast start details
Fast start details must not be provided for slow start units	Fast start details because they are not permitted for slow start units
Fast start minimum load cannot be negative	Fast start minimum load is a positive value
Fast start minimum load cannot exceed registered maximum capacity of unit	Fast start minimum load is < = registered maximum capacity



Message	Check
Fast start T1 + T2 must be <= 30 minutes	Sum of fast start T1 + T2 <= 30 minutes
Fast start T1 + T2 + T3 + T4 must be < 60 minutes	Sum of fast start T1 + T2 + T3 + T4 < 60 minutes
Fixed Load cannot exceed maximum availability for the DUID {0}	Fixed load not is < = maximum availability
Improper trading date format	Trading date format is one of:  yyyy-mm-dd e.g.2021-04-23  yyyy-mm-dd 00:00:00 e.g. 2021-04-23 00:00:00
Interconnector {0} is invalid or not active	Interconnector details
Max Availability must be <= Maximum Capacity {0}	Maximum availability is <= maximum capacity
Missing MNSP bid for {0}	Opposite MNSP bid is missing
Missing registration bid details for {0}. Please contact the Support Hub	DUID details are consistent with registration details
MNSP Link {0} invalid or not active	MNSP link details
No periods defined in bid	Bid/offer has period IDs 1-288
Offered FCAS trapezium must not be outside the registered FCAS trapezium	High break point or low break point value

Message	Check
ParticipantId cannot be null. Please provide a valid participantId	Participant ID
PASA Availability must be >= Max Availability	PASA availability >= maximum availability
PASA availability of {0} exceeds maximum capacity of {1}	PASA availability not > maximum capacity
PID {0} is not authorised to submit bids for DUID {2}	Participant ID can submit bids for this DUID
PID {0} is not authorised to submit bids for interconnector {1} or {2}	Participant ID can submit bids for this Interconnector
Price band {0} value {1} differs from last offer value {2}	Rebid price bands = the initial bid/offer
Price band value must be greater than or equal to market price floor ({0})	Price bands >= market floor price
Price bands cannot be changed for a rebid	Rebid price bands = the initial bid/offer
Price bands must be greater than or equal to market floor price	Price bands >= market floor price
Price bands must be greater than or equal to zero	Price bands >= zero
Price bands must be less than or equal to market price cap {0}	Price bands <= market price cap

Message	Check
Price bands must increase progressively	Each price band is > previous price band
Price bands violate MNSP convexity rule	Price bands do not violate the MNSP convexity rule
Ramp Rate must be $\leq$ registered max Ramp Rate {0}	Ramp up rate $\leq$ registered maximum ramp rate
Rate of change up or down beyond respective registered bounds of {0} and {1}	Rate of change up or down is within respective registered bounds
Reason required for fixed load	A reason is provided for fixed load
Reason required for low Ramp Rate	A reason is provided for low ramp up or down rate
Reason required for rebid	A reason is provided for the Rebid
Sum of Band Availabilities must be $\geq$ Maximum Capacity {0}	Sum of band availabilities $\geq$ maximum capacity
The direction provided for this Link ID {0} is not correct	Interconnector direction
The first trading interval in the section must be period 1	First trading interval is period 1
The last trading interval in the section must be period 288	Last trading interval is period 288

Message	Check
The rebid reason must be less than or equal to 500 characters in length	Rebid reason <= 500 characters
The trading day for this bid has ended	Trading date
This participant ID is not active	Participant ID
Trading interval cannot exceed 288. Trading interval mentioned is {0}	Trading interval
Unable to process the submission. Please contact AEMO for further support	Submission and contact Support Hub if required
Unit {0} is not registered as a recognised dispatchable type	Generating unit details = registration details
Value for T1 parameter must not be negative	The fast start T1 is positive or zero
Value for T2 parameter must not be negative	Check the fast start T2 is positive or zero
Value for T3 parameter must not be negative	Check the fast start T3 is positive or zero
Value for T4 parameter must not be negative	Check the fast start T4 is positive or zero

# Needing Help

## 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).

- The [Contact Us](#) form on AEMO's website.

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

## 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)

## Feedback

Your feedback is important and helps us improve our services and products. To suggest improvements, please contact [AEMO's support hub](#).

# Terms

<a href="#">Rules and Procedure Terms</a> .....	35
<a href="#">Glossary</a> .....	36

## Rules and Procedure Terms

You can find the following terms defined in the relevant [Energy rules](#) and procedures.

AEMO	ii
Registered Participants	3
Dispatchable Unit Identifier	7
Dispatch Bid	9
Dispatch	9
Scheduled Load	9
Dispatch Offers	10
Frequency	10
Market Network Service Provider	10
Market Participants	11
Ancillary Services	20
Dispatchable Unit Identifier	21

# Glossary

This glossary lists common terms, acronyms, abbreviations, and measurements. For more terms, see [Industry Terminology](#) on AEMO's website.

## **30-min Period**

Term replacing Trading Interval, where the period remains 30 minutes

## **ACK**

An acknowledgement file from AEMO with a filename extension of .ACK. The file contains messages to acknowledge the success of another file.

## **Band Availability**

The band availability for the period corresponding to the Price Band for the matching Period.

## **Bid**

Energy - Scheduled Loads

## **Bid Sheet**

The grid where you enter or view Bid/Offer details.

## **Bid/Offer**

The term Bid relates to the following Dispatch Bids: Energy (Scheduled Loads) The term Offer relates to the following Dispatch Offers: 1. Energy (Generation Dispatch Offer) 2. Frequency Control Ancillary Service (FCAS) 3. Market Network Service Provider (MNSP - Network Dispatch Offer)

## **Bid/Offer Cut-off Time**

12:30 pm on the day before Trading Day of the Dispatch Offer

## **Bid/Offer File**

The JSON file submitted to AEMO's market systems for a Dispatch Offer or Bid.



**Bid/Offer Type**

Daily or Rebid

**CPT**

The extension of a corrupt acknowledgement file.

**Daily**

Offer Type submitted before the Offer Cut-off Time (12:30 PM the day before the Trading Day)

**Dispatch Bids and Offers File**

The JSON schema used to provide Dispatch Bids and Offers into the NEM.

**DUID**

A semi-scheduled generating unit or a non-scheduled generating unit

**e-Hub**

Consists of the API Web Portal and the API Gateway for both electricity and gas.

**Effective Bid/Offer**

The latest Bid/Offer File with a valid acknowledgement from AEMO.

**Effective Date**

The latest acknowledged Bid/Offer file date

**Electricity Data Model**

The Electricity Data Model is the definition of the interface to participants of data published by AEMO from National Electricity Market (NEM) systems.

**Energy Offer**

The unit must be a generator for the service type, Energy. Loads cannot Offer for mandatory restrictions capacity.

**FCAS**

Frequency Controlled Ancillary Services

**Fixed Load**

Optional MW, not greater than the max. availability

**FS Min Load**

Fast start minimum load (MW). Only relevant to Service type, Energy.

**FSML**

Fast start minimum load

**Include Superseded**

Bids or Offers superseded by a subsequent bid

**JSON**

JavaScript Object Notification

**JSON Root Schema**

The schema comprising the entire JSON Bid and Offer File

**JSON Schema**

A JSON document that is an object containing keywords or schema keywords. A JSON Schema can contain properties that are not schema keywords.

**LAN**

Local area network

**LinkID**

Identifies the MNSP interconnector link in AEMO's systems. A property in the MNSPBidLink object in the JSON bidding schema

**Maximum Availability**

The maximum planned availability in MW for the matching period.

**MFP**

Market Floor Price

**MLF**

Intra-regional marginal loss factor

**MNSP**

Market Network Service Provider

**MW/minute**

Megawatts per minute

**MWh/day**

Megawatt hours per day

**NCAS**

Network Control Ancillary Services

**Offer**

Energy - Generation Dispatch Offer FCAS Offer MNSP - Network Dispatch Offer

**Period**

The 288 periods from 4:30 am to 4:00 am.

**Period ID**

The value for each trading interval (1-288)

**Privileges**

The create, read, update, delete, or execute privileges assigned to a Right.

**Reallocations**

Reallocation Request Service

**Rebid**

Offer Type submitted after the Offer Cut-off Time (12:30 PM the day before the Trading Day)

**Right**

Rights are a collection of entities and their associated access privileges.

**Right Type**

Batch, interactive, or both.

**Service Types**

Energy, FCAS, and MNSP

**Service Types - FCAS**

RAISE6SEC, RAISE60SEC, RAISE5MIN, RAISEREG, LOWER6SEC, LOWER60SEC, LOWER5MIN and LOWERREG)

**Single User ID Login**

The ability to switch between different participant IDs, without having to log out, change the ID and password, and log in again. See Setting up Single User IDs.

**Submission**

A Bid/Offer submission can have: 1. Multiple Trading Days 2. Multiple DUIDs/LinkIDs 3. All Service Types in the same Submission

**T1**

Fast Start Time at Zero in minutes. Only relevant to Service type, Energy.

**T2**

Fast Start Time to Minimum Load in minutes. Only relevant to Service type, Energy.

**T3**

Fast Start Time at Minimum Load in minutes. Only relevant to Service type, Energy.

**T4**

Only relevant to Service type, Energy. Fast Start Time to Zero in minutes.

**TI**

Trading Interval

# References

## Data interchange and data model resources

### Software

You can find Data Interchange software in the following locations:

- Data Interchange Help > [Software Releases](#).
- Releases directory on the participant file share: FTP to 146.178.211.2 > Data Interchange, pdrBatcher, pdrLoader, or pdrMonitor.
- Full install: [AEMO's website](#) > Electricity or Gas IT Systems.

### Reports

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

### Releases

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

### Help

- [Data interchange online help](#)

# Index

## A

access 8  
ACK.json file 26  
ACK.zip 26  
API 11  
Assumed Knowledge 6

## B

Bid explanation 9  
BID.json 13  
BID.zip 13  
Bid/offer format 20

## C

CPT.json file 26  
CPT.zip 26

## D

Daily Bid/Offer 20  
Data Interchange Help 12  
Data Interchange software 41  
Dispatch Bid/Offer Submission User rights  
    access 7  
Dispatch Bids 9  
Dispatch Offers 10

## E

Energy 20

Energy (Generation Dispatch Offer) 10  
Energy Service Type 21  
entity 8

## F

FCAS 10, 20  
FCAS Service Type 21  
Feedback 34  
Frequency Control Ancillary Service  
    (FCAS) 10  
Frequency Controlled Ancillary Services 20  
FTP 8, 11  
FTP Bid/offer filename 13  
FTP bid/offer filename components 14  
FTP Bid/offer filename example 13  
FTP participant file server addresses 12  
FTP processing order for multiple files 13  
FTP submission rules 13  
FTP zip file format 14

## G

Guide to Electricity Information Systems 8

## I

indicate no value for optional fields 15  
Interfaces for managing bids/offers 11  
Invalid bid/offer 26

## **J**

JSON 20

JSON format 15

JSON schema format 19

JSON syntax 19

## **L**

large amount of Submissions 11

## **M**

Market Network Service Provider 21

Market Network Service Provider (MNSP -  
Network Dispatch Offer) 10

MarketNet 8

MarketNet access 8

Markets Portal 12

Microsoft SQL Server databases 16

MNSP 10, 21

MSATS 7

## **O**

Offer explanation 10

Oracle databases 15

Oracle PDR loader properties file  
changes 16

## **P**

Participant administration 7

Participant Administrators 7

Participant File Server 11

Participant User access 7

## **R**

Rebid 20

Rebid Explanation element 22

Related rules and procedures 5

RulesTerms 35

## **S**

Service types 20

small amount of Submissions 12

## **V**

Valid bid/offer 26

## **W**

web upload 20