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EMMS Technical Specification – 5MS - Data Model v5.00

3.023.00 March 2021

Release series: EMMSDMv5.00

Important Notice

PURPOSE & AUDIENCE

This document describes the technical changes required to participant's systems for the Data Model v5.00 (Project). The Australian Energy Market Operator (AEMO) provides this information as a service targeting business analysts and IT staff in participant organisations. It provides guidance about the changes to their market systems under the National Electricity Rules (Rules), as at the date of publication.

HOW TO USE THIS DOCUMENT

- If you have questions about the business aspects of these changes, please see Consultations on [AEMO's website](#).
- The references listed throughout this document are primary resources and take precedence over this document.
- Unless otherwise stated, you can find resources mentioned in this guide on AEMO's website.
- **Text in this format** is a link to related information.
- **Text in this format** indicates a reference to a document on [AEMO's website](#).
- **Text in this format** is an action to perform in the Markets Portal.
- This document is written in plain language for easy reading. Where there is a discrepancy between the NER, Auction Rules, or procedures and information or a term in this document, the Rules and procedures take precedence.
- Glossary Terms are capitalised and have the meanings listed against them in the Glossary.
- Rules terms defined in the NER or SRA Auction Rules are listed in the Rules Terms section.
- References to time are Australian Eastern Standard Time (AEST).

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DOCUMENT IDENTIFICATION

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VERSION HISTORY

[3.023.00](#) See Changes in this version on page 3.

DOCUMENTS MADE OBSOLETE

The release of this document changes only the version of EMMS Technical Specification – SMS - Data Model v5.00.

SUPPORT HUB

AEMO's Support Hub Phone: 1300 AEMO 00 (1300 236 600) and follow the prompts.

FEEDBACK

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1 Introduction

The EMMS Technical Specification – 5MS - Data Model v5.00 (Release) includes changes related to participants' Data Interchange (DI) environments. AEMO provides this information as a service targeting business analysts and IT staff in participant organisations.

This technical specification replaces the **Electricity Data Model v5.00 chapters in the following 5MS Technical Specifications:**

1. EMMS Technical Specification – 5MS – Dispatch and Operations.
2. EMMS Technical Specification – 5MS and GS – Settlements and Billing.

For details about other 5MS functionality changes, not related to the Data Model, see the following technical specifications on the [Systems Technical Documents](#) web page:

1. **EMMS 5MS Technical Specification - Dispatch and Operations**
2. **EMMS 5MS Technical Specification -Prudentials**
3. **EMMS 5MS Technical Specification -Reallocations**
4. **EMMS 5MS Technical Specification - Settlements and Billing**
5. **MSATS 46.98 Technical Specification - 5MS - Meter Data**
6. **[MSATS 46.99 Technical Specification - 5MS and Customer Switching](#)**
7. **[MSATS 47.00 Technical Specification - 5MS and GS](#)**

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1.1 Status

This technical specification presents the system design at the time of publication. It may change as participants provide feedback and test in the staging environment. Please send feedback to 5ms@aemo.com.au.

~~For 5MS project details, see <https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement>.~~

~~For 5MS project details, see <https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement>.~~

Participants can discuss the 5MS changes in this version in upcoming Industry Engagement sessions. For SWG meeting dates, see the 5MS Calendar:

<https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement/participant-toolbox/program-calendar-and-timelines>
<https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement>

Version	Status
3.023-00	Participants can commence their system builds but small changes may still occur while participants are testing in the staging environment and providing feedback
3.00	<u>Participants can commence their system builds but small changes may still occur while participants are testing in the staging environment and providing feedback</u>
1.01	Participants can commence their system builds but small changes may still occur while participants are testing in the staging environment and providing feedback
1.00	Participants can commence their system builds but small changes may still occur while participants are testing in the staging environment and providing feedback
0.08	Participants can commence their system builds but small changes may still occur while participants are testing in the staging environment and providing feedback
0.07	Participants can commence their system builds but small changes may still occur while participants are testing in the staging environment and providing feedback
0.06	This technical specification is an initial creation for review by participants. Participants can commence their system builds but small changes may still occur while participants are testing in the staging environment and providing feedback

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1.2 Version numbers

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

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

Changes are detailed on page 3.

1.3 Changes in this version

This version adds the following updates:

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

1. ~~For the duration of SMS Bidding Transition, the Data Model design is extended to include in the:~~

- a. ~~Next Day Offer Energy file: the 5 minute BIDOFFERPERIOD, 5 minute MNBP_BIDOFFERPERIOD, 30 minute BIDPEROFFER, and 30 minute MNBP_PEROFFER reports. The 30 minute reports remain in the file during SMS Bidding Transition only.~~
- b. ~~Next Day Offer FCAS file: the 5 minute BIDOFFERPERIOD and 30 minute BIDPEROFFER reports. The 30 minute report remains in the file during SMS Bidding Transition only.~~

~~From SMS Rules Commencement, the SMS Bidding Transition Bid/Offer availabilities may change for each 5 minute Interval making it impossible to represent Bid/Offer on a 30 minute period basis.~~

~~The Next Day Offer Legacy reports maintain the 30 minute data so participants can migrate from the Legacy to the Current files once they have upgraded their Data Model to version 5.0.~~

2. ~~Auto subscription of File ID BIDOFFERFILETRK changes to Auto subscription = yes on page 52.~~
3. ~~1. BIDOFFERFILETRK table comment changes to: Shows an audit trail of all files submitted containing an FCAS Bid, including corrupt bids and rebids.~~
4. ~~Clarity about tables replacing discontinued tables on page 46.~~
5. ~~1. The following tables are still current and no longer discontinued as previously advised:~~
 - a. ~~BIDDAYOFFER_D~~
 - a. ~~BIDPEROFFER_D~~
6. ~~1. The following non-Data Model files are discontinued from the monthly DVD:~~
 - a. ~~DVD_BIDDAYOFFER_D~~
 - a. ~~DVD_BIDPEROFFER_D~~

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~~7.1. Fixed comment for P5Min_intersensitivities to: Sets out the sensitivity flows for each interconnector for 5MinPD solution.~~

1. ~~Added a link to the FAQ from the October MSUG meeting~~Changes to the replication of Dispatch Bid/Offer files in preparation for the Five-Minute Settlements changes where the duration of the offered Trading Period changes from 30-minutes to 5-minutes.

This change (on page 95) adds additional data to the existing files and is intended to ease participant's transition from 30- to 5-minute Trading Periods for the 5MS project.

This change impacts participants subscribed to the following files in staging, pre-production, and production:

– **BID MNSP:** Existing 30-minute file discontinued on commencement of the 5MS Rule Change.

– **BIDOFFERFILETRK:** Existing 30-minute file discontinued on commencement of the 5MS Rule Change.

– **NEM BIDS:** New 5-minute file continues after commencement of the 5MS Rule Change.

2. **NEM BIDS:** Added to file interface changes. AEMO auto-subscribes participants to this file (on page 60).

3. **BIDMOVE COMPLETE:** Added to file interface changes. AEMO auto-subscribes participants to this file (on page 60).

4. Added diagrams explaining the continued and discontinued files on page 60.

~~8.5.~~Added MSUG meeting for 24 March 2021 on page 6.

9. ~~Completed File interface changes for non-5MS files on page 86.~~

6. ~~Data Model v5.00 no longer supports Microsoft SQL server 2012 and Oracle 18c.~~Notice of a pre-production refresh in mid June 2021 on page 6.

10. ~~For supported versions, see page 8.~~

1.4 Audience

The primary audience is business analysts and IT staff in participant organisations implementing and maintaining Data Interchange environments.

1.5 Approval to change

There is no approval or agreement to change required from participant change controllers for this Release as it is part of the AEMC's Five-Minute Settlement rule change.

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

[https://www.aemc.gov.au/rule-changes/five-minute-](https://www.aemc.gov.au/rule-changes/five-minute-settlement)

[settlement](https://www.aemc.gov.au/rule-changes/five-minute-settlement)~~https://www.aemc.gov.au/rule-changes/five-minute-settlement.~~

2 Milestones

2.1 Staging Environment

Status	Details
Available for 5MS testing to test submitting 5-minute bids. 10 August 2020 Script release v5.0.0.3.	Script and pdrConfig location: Participant File Server > Releases > MMS Data Model > 5MSStaging > v5.0.0.3 Instructions for applying the scripts are in the readme.txt and the Data Model Installation Note . For details about Data Interchange and the Data Model, see Data Interchange Framework and Glossary . For help setting up a new DI instance, see Guide to Setting Up a Standard Data Interchange Environment .

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2.2 User group meeting

Status	Details
24 March 2021 14 October 2020 10 am – 1 pm	Market systems user group (MSUG) meeting to discuss items in on this Release, including APIs and Data Model v5.000. Systems Technical Documents EMMS Release FAQ – October 2020 – Data Model v5.00 Guide to API Energy, FCAS, and MNSP Bids and Offers EMMS Release FAQ – October 2020 – Data Model v5.00

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2.3 Pre-production refresh

Status	Details
Upcoming: Mid-June 2021 Complete	Refresh of the pre-production system with data refreshed from the production system data of 11 December 2020

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Status	Details
14 December 2020 – 21 December 2020	An outage of up to five days can occur to the pre-production environment during this period. Participant access is not restricted, however, AEMO do not guarantee the pre-production data content or system availability. During the refresh, access to other AEMO systems such as EMMS, GSH, OPDMS, and STTM may be intermittently affected

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2.4 Pre-production implementation

Status	Details
1 week before the pre-production release	<p>AEMO implements components of the Release to pre-production for participant testing</p> <p>AEMO has full access to the system during this period</p> <p>Participant access is not restricted; however, the data content or system availability is not guaranteed</p>

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2.5 Pre-production release

Status	Details
Released	<p>Only apply the Data Model scripts to your pre-production environment</p> <p>Participants can subscribe to the LEGACY or CURRENT versions of files. If both versions of files are subscribed, AEMO automatically unsubscribes the LEGACY version in:</p> <ul style="list-style-type: none"> - Pre-production: after 14 Calendar days - Production: after 5 Calendar days <p>Script and pdrConfig location: Participant File Server > \Releases\MMS Data Model\PreProduction\v5.0</p> <p>Instructions for applying the scripts are in the Release Notes and Data Model Installation Note</p> <p>For details about Data Interchange and the Data Model, see Data Interchange Framework and Glossary</p>

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Milestones

Status	Details
	For help setting up a new DI instance, see Guide to Setting Up a Standard Data Interchange Environment For help setting up a new DI instance, see Guide to Setting Up a Standard Data Interchange Environment

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2.6 Production implementation

Status	Details
1 week before the production release	AEMO implements components of the Release to production

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2.7 Production release

Status	Details
2021 For details, see Program Timeline on AEMO's website AEMO's website	Production systems available to participants The Readiness Working Group (RWG), provides these dates as they are confirmed

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3 Data Model v5.00 Information

This Release contains a new version of the MMS Data Model v5.00, having changes to the following packages:

- [DEMAND FORECASTS 65](#)
- [MTPASA 66](#)
- [PSMIN 67](#)
- [PDPASA 67](#)
- [STPASA SOLUTION 68](#)

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- [MTPASA 66](#)

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- [PDPASA 67](#)

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

3.1 Database management

The following Database Management Systems are supported the Data Model v5.00:

DMS	Current	Still supported
Microsoft SQL Server	2017	2014
Oracle	19c	12c

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Change so participants can submit more than one submission per second

3.2 Change so participants can submit more than one submission per second

3.2.1 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:

```
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.

Figure 1 pdrLoader properties file

```
#####
# SQL server handler parameters
#
# databasename          The database to connector to.
# sendStringParametersAsUnicode  Performance to avoid unicode conversion between client and server.
#                          Default is false
# SelectMode            Performance 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
```


Display of decimals in reports and tables

```
#####
#      SQL server handler parameters
#
#      databasename          The database to connector to.
#      sendStringParametersAsUnicode Performance to avoid unicode conversion between client and server.
#                               Default is false
#      SelectMode            Performance 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 Pluggable 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
```

3.3 Display of decimals in reports and tables

Due to updates to AEMO's internal systems, NEM_REPORTS display values up to eight decimal places. When the data loads into a Data Model table, it truncates to five decimal places.

For example, in the AS_PAYMENTS_SUMMARY report, the value displayed is 200.00000000. In the BILLINGASPAYMENTS table, it is 200.00000.

3.4 Information about increased data volumes

The 5MS project brings increased data volumes to the Bids tables. Assuming participants are making the same amount of Bids when 5MS goes live as they are now, the new data volumes equate to a multiple of six times the current volume.

To mitigate risk due to this volume increase, AEMO is implementing a data management plan, allowing partitioning of AEMO's internal tables. The plan involves copying older but still current Bids and Offers to a more recent date. Migrating old data allows AEMO to cleanly archive older partitions.

Only a few participants see this activity as it only occurs when an Offer or Bid is not superseded by a later one between the original Trading Date and the archive date. For example, this might occur for Semi-scheduled Generating Units where their most recent Offer is still effective despite being many months old. Participants who submit Bids or Offers regularly are not impacted.

3.4.1 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.

Once AEMO lifts the restriction participants can submit more than one Bid per second per Participant ID.

4 Electricity Data Model v5.00 – 5MS

This section describes the affected packages, tables, files, reports, and interfaces that change as a result of the 5-Minute Settlement project.

4.1 Modified packages and tables

Package	Table name	Change	Details
BIDS	BIDOFFERFILETRK	New & modified columns	Added fields to support bidding changes Includes MNSP Bid Submissions OfferDate existing field changes from Date to TimeStamp(3)
	BIDDAYOFFER	New & modified columns	Added fields to support bidding changes OfferDate existing field changes from Date to TimeStamp(3)
	BIDPEROFFER	Discontinued	Only stores 30-minute Bid interval data
	BIDOFFERPERIOD	New table	Stores 5-minute Bid interval data Child table to BIDDAYOFFER
	MNSP_FILETRK	Discontinued	BIDOFFERFILETRK is used to track MNSP Submissions
	MNSP_OFFERTRK	Discontinued	This table is no longer used
	MNSP_DAYOFFER	New & modified columns	Added fields to support bidding changes OfferDate existing field changes from Date to TimeStamp(3)

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Modified packages and tables

Package	Table name	Change	Details
	MNSP_PEROFFER	Discontinued	Only stores 30-minute Bid interval data
	MNSP_BIDOFFERPERIOD	New table	Stores 5-minute Bid interval data Child table to MNSP_DAYOFFER
DISPATCH	DISPATCH_MNSPBIDTRK	Modified columns	OFFEREFFECTIVEDATE existing field changes from Date to TimeStamp(3)
	DISPATCHOFFERTRK	Modified columns	OFFERDATE changes to TIMESTAMP(3)
PREDISPATCH	PREDISPATCH_MNSPBIDTRK	Modified columns	OFFERDATE existing field changes from Date to TimeStamp(3)
	PREDISPATCHOFFERTRK	Modified columns	OFFERDATE changes to TIMESTAMP(3)
TRADING_DATA	AVERAGEPRICE30	New table	Publishes the 30-minute average trading price
	TRADINGPRICE	Interval data change	Change of intervals to 5-minute resolution from 30-minute
	TRADINGINTERCONNECT	Interval data change	Change of intervals to 5-minute resolution from 30-minute
	TRADINGREGIONSUM	Discontinued	DISPATCHREGIONSUM provides the 5-minute data
	TRADINGLOAD	Discontinued	DISPATCHLOAD provides the 5-minute data
BILLING_RUN	BILLINGCPDATA	Modified table	Changes for 5MS/Global Settlements

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Modified packages and tables

Package	Table name	Change	Details
	BILLRESERVETRADERPAYMENT	New table	Changes for 5MS Settlements - RERT
	BILLRESERVETRADERRECOVERY	New table	Changes for 5MS Settlements – RERT
SETTLEMENT_DATA	DAYTRACK	Modified table	Changes for 5MS
	<u>SET APC RECOVERY</u>	<u>Interval data</u>	<u>Updates the trading intervals from 1-48 to 1-288</u>
	SETCPDATA	<u>Interval data</u> Modified table	<u>Updates the trading intervals from 1-48 to 1-288</u> Changes for Global Settlements
	<u>SETCPDATAREGION</u>	<u>Interval data</u>	<u>Updates the trading intervals from 1-48 to 1-288</u>
	<u>SETFCASREGIONRECOVERY</u>	<u>Interval data</u>	<u>Updates the trading intervals from 1-48 to 1-288</u>
	<u>SETGENDATA</u>	<u>Interval data</u>	<u>Updates the trading intervals from 1-48 to 1-288</u>
	<u>SETGENDATAREGION</u>	<u>Interval data</u>	<u>Updates the trading intervals from 1-48 to 1-288</u>
	<u>SETINTRAREGIONRESIDUES</u>	<u>Interval data</u>	<u>Updates the trading intervals from 1-48 to 1-288</u>
	<u>SET_FCAS_PAYMENT</u>	<u>Interval data</u>	<u>Updates the trading intervals from 1-48 to 1-288</u>
	SETLOCALAREAENERGY	New table	Changes for Global Settlements
	SETLOCALAREATNI	New table	Changes for 5MS

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Modified packages and tables

Package	Table name	Change	Details
	SETLSHEDPAYMENT	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETLSHEDRECOVERY	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETMARKETFEEES	Interval data Modified table	Changes for Global Settlements
	SET_NMAS_RECOVERY	Interval data	Updates the trading intervals from 1-48 to 1-288
	SET_NMAS_RECOVERY_RBF	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETIRSURPLUS	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETIRAUCSURPLUS	Interval data Modified table	Changes for 5MS – updates Settlement Period in a day (1...288).
	SETIRNSPSURPLUS	Interval data Modified table	Updates the trading intervals from 1-48 to 1-288
	SETIRPARTSURPLUS	Interval data Modified table	Updates the trading intervals from 1-48 to 1-288
	SETREALLOCATIONS	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETRESERVERECOVERY	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETRESTARTPAYMENT	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETRESTARTRECOVERY	Interval data	Updates the trading intervals from 1-48 to 1-288

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Modified packages and tables

Package	Table name	Change	Details
	SETRPOWERPAYMENT	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETRPOWERRECOVERY	Interval data	Updates the trading intervals from 1-48 to 1-288
	SETSMALLGENDATA	Interval data	Updates the trading intervals from 1-48 to 1-288
SETTLEMENT_CONFIG	REALLOCATIONINTERVAL	Interval Modified data	Updates Updates the trading intervals from 1-48 to 1-288 for all days on or after the commencement of SMS rule change date.
METERDATA	METERDATA_AGGREGATE_READS	Interval Modified data	Updates Updates the trading intervals from 1-48 to 1-288 for all days on or after the commencement of SMS rule change date.
	METERDATA_INDIVIDUAL_READS	Interval Modified data	Updates the trading intervals from 1-48 to 1-288
	METERDATA_INTERCONNECTOR	Interval Modified data	Updates the trading intervals from 1-48 to 1-288

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4.2 New tables

4.2.1 New table: TRADING_DATA.AVERAGEPRICE30

Change Notes

New table reflecting the 30-minute average price (the pre-5MS trading price).

Name	AVERAGEPRICE30
Package	TRADING_DATA
Comment	Reflects the 30-minute average price (the pre-5MS trading price)
Visibility	Public
Trigger	Updated every 30 mins on price update
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	PERIODDATE, REGIONID

New tables

Columns

Field Name	Data type	Comment
PERIODDATE	DATETIME	The 30-minute interval period, 1 to 48 from the start of the calendar day
REGIONID	VARCHAR2(10)	Region Identifier
PERIODID	NUMBER(3,0)	The 30-minute interval period, 1 to 48
RRP	NUMBER(15,5)	Regional Reference Price for this period
PRICE_CONFIDENCE	VARCHAR2(20)	Result of Manifestly Incorrect Inputs Price Status and OCD_Status - either "FIRM" or "NOT FIRM". Only FIRM if the Dispatch Interval is resolved for both MII and OCD
LASTCHANGED	DATETIME	Last date and time record changed

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4.2.2 New table: **BIDS**~~BID~~.BIDOFFERPERIOD

5-minute Bid information is populated to this table.

Name	BIDOFFERPERIOD
Package	BID
Comment	BIDOFFERPERIOD shows 5-minute period-based Energy and Ancillary Service Bid data BIDOFFERPERIOD is a child table of BIDDAYOFFER

New tables

Visibility	Private; Public next-day
Trigger	Generated as Submissions are processed; in next-day reports
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	DUID, BIDTYPE, OFFERDATETIME, PERIODID, TRADINGDATE

Columns

Field Name	Data type	Comment
DUID	VARCHAR2(20)	Dispatchable Unit identifier
BIDTYPE	VARCHAR2(10)	The type of Bid, one-of ENERGY, RAISE6SEC, RAISE60SEC, RAISE5MIN, RAISEREG, LOWER6SEC, LOWERREG, LOWER60SEC, LOWER5MIN
TRADINGDATE	DATE	The trading date this Bid is for
OFFERDATETIME	TIMESTAMP(3)	Time this Bid was processed and loaded
PERIODID	NUMBER(3,0)	Period ID 1 to 288
MAXAVAIL	NUMBER(8,3)	Maximum availability for this BidType in this period
FIXEDLOAD	NUMBER(8,3)	Fixed unit output MW (Energy bids only) A null value means no fixed load so the unit is dispatched according to Bid and market
RAMPUPRATE	NUMBER(6)	MW/Min for lower (Energy bids only)

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New tables

Field Name	Data type	Comment
RAMPDOWNRATE	NUMBER(6)	MW/Min for lower (Energy bids only)
ENABLEMENTMIN	NUMBER(8,3)	Minimum Energy Output (MW) at which this ancillary service becomes available (AS Only)
ENABLEMENTMAX	NUMBER(8,3)	Maximum Energy Output (MW) at which this ancillary service can be supplied (AS Only)
LOWBREAKPOINT	NUMBER(8,3)	Minimum Energy Output (MW) at which the unit can provide the full availability (MAXAVAIL) for this ancillary service (AS Only)
HIGHBREAKPOINT	NUMBER(8,3)	Maximum Energy Output (MW) at which the unit can provide the full availability (MAXAVAIL) for this ancillary service (AS Only)
BANDAVAIL1	NUMBER(8,3)	Availability at price band 1
BANDAVAIL2	NUMBER(8,3)	Availability at price band 2
BANDAVAIL3	NUMBER(8,3)	Availability at price band 3
BANDAVAIL4	NUMBER(8,3)	Availability at price band 4
BANDAVAIL5	NUMBER(8,3)	Availability at price band 5
BANDAVAIL6	NUMBER(8,3)	Availability at price band 6
BANDAVAIL7	NUMBER(8,3)	Availability at price band 7
BANDAVAIL8	NUMBER(8,3)	Availability at price band 8

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New tables

Field Name	Data type	Comment
BANDAVAIL9	NUMBER(8,3)	Availability at price band 9
BANDAVAIL10	NUMBER(8,3)	Availability at price band 10
PASAAVAILABILITY	NUMBER(8,3)	Allows for future use for Energy bids, being the physical plant capability including any capability potentially available within 24 hours

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4.2.3 New table: BILLING_RUN.BILLRESERVETRADERPAYMENT

Comment	Details of the RERT Usage and Availability Payments made to the participant.
Package	BILLING_RUN
Visibility	Private
Trigger	Updates after posting a PRELIMINARY/FINAL and REVISED Billing Run
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, CONTRACTID, PAYMENT_ID

New tables

Columns

Field Name	Data Type	Description	Primary Key
CONTRACTYEAR	NUMBER(4,0)	Billing contract year	Y
WEEKNO	NUMBER(3,0)	Billing week number	Y
BILLRUNNO	NUMBER(3,0)	Billing posted run number	Y
PARTICIPANTID	VARCHAR2(20)	Participant identifier	N
CONTRACTID	VARCHAR2(20)	RERT payment contract ID	Y
PAYMENT_ID	NUMBER(3,0)	RERT Payment number	Y
PAYMENT_TYPE	VARCHAR2(40)	Description for the reserve trader contract payment amount.	N
PAYMENT_AMOUNT	NUMBER(18,8)	RERT payment amount for the payment type	N

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4.2.4 New table: BILLING_RUN.BILLRESERVETRADERRECOVERY

Comment	Provides details of the RERT Recovery Amount for the Market Customers.
Package	BILLING_RUN
Visibility	Private

New tables

Trigger	Updates after posting a PRELIMINARY/FINAL and REVISED Billing Run
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, PUBLICATION_ID, PARTICIPANTID, REGIONID, PAYMENT_ID

Columns

Field Name	Data Type	Description	Primary Key
CONTRACTYEAR	NUMBER(4,0)	Billing Contract Year	Y
WEEKNO	NUMBER(3,0)	Billing WeekNo	Y
BILLRUNNO	NUMBER(3,0)	Billing Posted RunNo	Y
PUBLICATION_ID	VARCHAR2(40)	Unique Publication Identifier for RERT Payment	Y
PAYMENT_ID	NUMBER(3,0)	RERT Payment number	Y
PAYMENT_AMOUNT	NUMBER(18,8)	RERT Payment amount	N
PARTICIPANTID	VARCHAR2(20)	Participant ID	Y
REGIONID	VARCHAR2(20)	Region from which the amount is recovered	Y

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New tables

Field Name	Data Type	Description	Primary Key
PARTICIPANT_DEMAND	NUMBER(18,8)	Participant Demand Value used for RERT Recovery	N
REGION_DEMAND	NUMBER(18,8)	Region Demand Value used for RERT Recovery	N
ELIGIBILITY_START_INTERVAL	DATE	Starting Period of RERT Recovery for Usage Payments	N
ELIGIBILITY_END_INTERVAL	DATE	Ending Period of RERT Recovery for Usage Payments	N
RECOVERY_AMOUNT	NUMBER(18,8)	Recovery Amount applicable for each Market Customer	N

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4.2.5 New table: ~~BIDBIDS~~.MNSP_BIDOFFERPERIOD

5-minute Bid information is populated to this table. During transition 30-minute bids are populated to this table.

Name	MNSP_BIDOFFERPERIOD
Package	BID
Comment	MNSP_BIDOFFERPERIOD shows availability for 5-minute periods for a specific Bid and LinkID for the given Trading Date and period. MNSP_BIDOFFERPERIOD is a child to MNSP_DAYOFFER (and joins to BIDOFFERFILETRK for SMS Bids)
Visibility	Private; Public next-day
Trigger	Generated as Submissions are processed; in next-day reports

New tables

Participant file share location <#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS

Primary key (in order) LINKID, OFFERDATETIME, PERIODID, TRADINGDATE

Columns

Field Name	Data type	Comment
LINKID	VARCHAR2(20)	Identifier for each of the two MNSP Interconnector Links. Each link pertains to the direction from and to.
TRADINGDATE	DATE	The trading date this Bid is for
OFFERDATETIME	TIMESTAMP(3)	Time this Bid was processed and loaded
PERIODID	NUMBER(3,0)	Period ID, 1 to 288
MAXAVAIL	NUMBER(8,3)	Maximum planned availability MW
FIXEDLOAD	NUMBER(8,3)	Fixed unit output, in MW. A value of 'null' means no fixed load so the unit is dispatched according to Bid and the market.
RAMPUPRATE	NUMBER(6)	Ramp rate (MW/min) in the positive direction of flow for this MNSP link for this half-hour period
BANDAVAIL1	NUMBER(8,3)	Availability at price band 1
BANDAVAIL2	NUMBER(8,3)	Availability at price band 2
BANDAVAIL3	NUMBER(8,3)	Availability at price band 3

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New tables

Field Name	Data type	Comment
BANDAVAIL4	NUMBER(8,3)	Availability at price band 4
BANDAVAIL5	NUMBER(8,3)	Availability at price band 5
BANDAVAIL6	NUMBER(8,3)	Availability at price band 6
BANDAVAIL7	NUMBER(8,3)	Availability at price band 7
BANDAVAIL8	NUMBER(8,3)	Availability at price band 8
BANDAVAIL9	NUMBER(8,3)	Availability at price band 9
BANDAVAIL10	NUMBER(8,3)	Availability at price band 10
PASAAVAILABILITY	NUMBER(8,3)	Allows for future use for Energy bids, being the physical plant capability including any capability potentially available within 24 hours

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4.2.6 New table: SETTLEMENT_DATA.SETLOCALAREAENERGY

Comment	SETLOCALAREAENERGY shows the UFE, AGE and associated values for each local area and trading interval in a settlement run.
Package	SETTLEMENT_DATA
Visibility	Public
Trigger	Updates after each Settlement run

New tables

Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	SETTLEMENTDATE, SETTLEMENTRUNNO, LOCALAREAID, PERIODID

Columns

Field Name	Data Type	Description	Primary Key
SETTLEMENTDATE	DATE	Settlement date of the settlement run	Y
SETTLEMENTRUNNO	NUMBER(3,0)	Settlement run number of the settlement run	Y
LOCALAREAID	VARCHAR2(30)	Unique identifier for the local area	Y
PERIODID	NUMBER(3,0)	Period identifier	Y
UFE	NUMBER(18,8)	Total unaccounted-for energy for the local area in this trading interval, in MWh	N
DDME	NUMBER(18,8)	DDME component of UFE for the local area in this trading interval, in MWh.	N
TME	NUMBER(18,8)	TME component of UFE for the local area in this trading interval, in MWh.	N
ADME	NUMBER(18,8)	ADME component of UFE for the local area in this trading interval, in MWh.	N
ADMELA	NUMBER(18,8)	The sum of all DME amounts for each Market Customer FRMP and TNI in the local area, in this trading interval.	N
LASTCHANGED	DATE	Last changed date for the record	

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New tables

4.2.7 New table: SETTLEMENT_DATA.SETLOCALAREATNI

Comment	SETLOCALAREATNI shows the list of TNIs constituent to a local area in a settlement run.
Package	SETTLEMENT_DATA
Visibility	Public
Trigger	Updates after each Settlement run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	SETTLEMENTDATE, SETTLEMENTRUNNO, LOCALAREAID, PERIODID

Columns

Field Name	Data Type	Description	Primary Key
SETTLEMENTDATE	DATE	Settlement date of the settlement run	Y
SETTLEMENTRUNNO	NUMBER(3,0)	Settlement run number of the settlement run	Y
LOCALAREAID	VARCHAR2(30)	Unique identifier for the local area	Y
TNI	VARCHAR2(30)	Unique identifier for a TNI constituent to the local area as-at the settlement run	Y
LASTCHANGED	DATE	Last changed date for the record	N

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4.3 Modified tables

4.3.1 Modified table: ~~BIDSBID~~.BIDDAYOFFER

The changes made are to align to the required rules rebidding fields:

- REBIDEXPLANATION
- REBID_EVENT_TIME

And fields to accommodate additional information the AER are expected to require in separate fields instead of in the explanation:

- REBID_AWARE_TIME
- REBID_DECISION_TIME
- REBID_CATEGORY
- The REFERENCE_ID for the Submission the Bid was part of has also been added for convenience

Name	BIDDAYOFFER
Package	BID
Comment	BIDDAYOFFER shows the Energy and Ancillary Service Bid data for each Market Day. BIDDAYOFFER is the parent table to BIDPEROFFER and BIDOFFERPERIOD BIDDAYOFFER is a child table to BIDOFFERFILETRK
Visibility	Private; public next-day
Trigger	Generated as Submissions are processed; in next-day reports

Modified tables

Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	DUID, BIDTYPE, SETTLEMENDATE, OFFERDATE

New columns

Field Name	Data type	Comment
REBID_EVENT_TIME	VARCHAR2(20)	The time of the event(s) or other occurrence(s) cited/adduced as the reason for the rebid. Required for rebids, not required for fixed load or low ramp rates. Expected in the format: HH:MM:SS e.g. 20:11:00
REBID_AWARE_TIME	VARCHAR2(20)	Intended to support the Rebidding and Technical Parameters Guideline The time when the participant became aware of the event(s) / occurrence(s) that prompted the rebid. Not validated by AEMO
REBID_DECISION_TIME	VARCHAR2(20)	Intended to support the Rebidding and Technical Parameters Guideline . The time when the participant made the decision to rebid. Not validated by AEMO
REBID_CATEGORY	VARCHAR2(1)	Intended to support the Rebidding and Technical Parameters Guideline . A provided rebid category. Not validated by AEMO

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Modified tables

Field Name	Data type	Comment
REFERENCE_ID	VARCHAR2(100)	A participant's unique Reference ID

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Modified column

Field Name	Data type	Comment
OFFERDATE	TIMESTAMP(3)	The time this Bid was processed and loaded

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4.3.2 Modified table: BIDS~~BID~~.BIDOFFERFILETRK

The changes made are to align to changes made to support the new API interface and improved Web bidding interface.

Name	BIDOFFERFILETRK
Package	BID
Comment	Shows an audit trail of all files submitted containing an FCAS Bid, including corrupt bids and rebids
Visibility	Private
Trigger	Updated as bids are processed

Modified tables

Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	OFFERDATE, PARTICIPANTID

New columns

Field Name	Data type	Comment
TRANSACTION_ID	VARCHAR2(100)	A GUID used to identify the Submission transaction in AEMOs systems
REFERENCE_ID	VARCHAR2(100)	A participant provided reference, which is required to be unique per Submission (for a PARTICIPANTID)
SUBMISSION_TIMESTAMP	DATE	The participant provided date/time for the Submission
COMMENTS	VARCHAR2(1000)	A participant provided comment

Modified column

Field Name	Data type	Comment
OFFERDATE	TIMESTAMP(3)	The time this Bid was processed and loaded

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Modified tables

4.3.3 Modified table: BILLING_RUN.BILLINGCPDATA

Name	BILLINGCPDATA
Package	BILLING_RUN
Comment	BILLINGCPDATA shows energy quantity and \$ value purchased per participant Connection Point.
Visibility	Private
Trigger	Populated by the posting of a Billing run, being several times each week
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	BILLRUNNO, CONNECTIONPOINTID, CONTRACTYEAR, MDA, PARTICIPANTID, WEEKNO

New Columns

Field Name	Data Type	Description	Primary Key
AFE	NUMBER (18,8)	Adjusted Gross Energy for this Market Customer FRMP and TNI in the Billing run, excluding any UFEA component.	N
DME	NUMBER (18,8)	Sum of ME- for all NMI's at this Market Customer FRMP and TNI in the Billing run.	N
UFEA	NUMBER (18,8)	Share of UFE allocated to this FRMP and TNI in the Billing run.	N

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Modified tables

Field Name	Data Type	Description	Primary Key
AGE	NUMBER (18,8)	Adjusted Gross Energy for this Market Customer FRMP and TNI in the trading interval. This will include the UFEA value once financial settlement of UFE commences 6 Feb 2022.	N

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Modified Columns

Field Name	Data Type	Description	Primary Key
AGGREGATEENERGY	NUMBER (16,6)	Aggregate energy purchased/sold by customer, in MWh, plus UFEA. When GS commences 6 Feb 2022, this includes the UFEA amount in the settlement runs.	N
PURCHASES	NUMBER (16,6)	Value of energy purchased/sold by customer, in \$. Financial value of energy transactions for the Market Customer and FRMP and TNI in the Billing run. When GS commences 6 Feb 2022, this includes the UFEA amount in the settlement runs.	

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4.3.4 Modified table: SETTLEMENT_DATA.DAYTRACK

Name	DAYTRACK
Package	SETTLEMENT_DATA

Modified tables

Comment	DAYTRACK identifies the actual settlement run processed for each settlement day. Settlement run is in the column EXPOSTRUNNO. Generally, the number of the settlement run used in the latest statement is the maximum number.
Visibility	Public
Trigger	DAYTRACK table is populated by the posting of a billing run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	EXPOSTRUN, SETTLEMENTDATE

New Columns

Field Name	Data Type	Description	Primary Key
SETTLEMENTINTERVALLENGTH	NUMBER(3,0)	Length of a settlement interval, in minutes (was 30 minutes, will be 5 minutes starting the commencement of 5MS rule change date).	N

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4.3.5 Modified table: DISPATCH.DISPATCH_MNSPBIDTRK

Name	DISPATCH_MNSPBIDTRK
Package	DISPATCH

Modified tables

Comment	Shows the MNSP Bid tracking, including the Bid version used in each dispatch run for each MNSP Interconnector Link. DISPATCH_MNSPBIDTRK is the audit trail of the bids actually used for each dispatch run.
Visibility	Private Public next-day
Trigger	Every 5 minutes
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	LINKID, PARTICIPANTID, RUNNO, SETTLEMENTDATE

Modified column

Field Name	Data type	Comment
OFFEREFFECTIVEDATE	TIMESTAMP(3)	Date the Bid/Offer becomes effective

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4.3.6 Modified table: DISPATCH.DISPATCHOFFERTRK

Name	DISPATCHOFFERTRK
Package	DISPATCH

Modified tables

Comment	The energy and ancillary service Bid tracking table for the Dispatch process. The table identifies which bids from BIDDAYOFFER and BIDPEROFFER were applied for a given unit and Bid type for each dispatch interval
Visibility	Private Public next-day
Trigger	Every 5 minutes
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	BIDTYPE, DUID, SETTLEMENTDATE

Modified column

Field Name	Data type	Comment
BIDOFFERDATE	TIMESTAMP(3)	Offer date of applied Bid

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4.3.7 Modified table: **BIDS**~~BID~~.MNSP_DAYOFFER

The changes made are to align to the required rules rebidding fields:

- REBIDEXPLANATION
- REBID_EVENT_TIME

And fields to accommodate additional information the AER require in separate fields instead of in the explanation:

- REBID_AWARE_TIME
- REBID_DECISION_TIME
- REBID_CATEGORY

The REFERENCE_ID for the Submission the Bid was part of has also been added for convenience.

Name	MNSP_DAYOFFER
Package	BID
Comment	MNSP_DAYOFFER updates as bids are processed. All bids are available as part of next day market data. MNSP_DAYOFFER is the parent table to MNSP_PEROFFER and MNSP_BIDOFFERPERIOD (and joins to BIDOFFERFILETRK for SMS Bids)
Visibility	Private; Public next-day
Trigger	Generated as Submissions are processed; in next-day reports
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	LINKID, OFFERDATE, PARTICIPANTID, SETTLEMENTDATE, VERSIONO

Modified tables

New columns

Field Name	Data type	Comment
REBID_EVENT_TIME	VARCHAR2(20)	The time of the event(s) or other occurrence(s) cited/adduced as the reason for the rebid. Required for rebids, not required for fixed load or low ramp rates. Expected in the format: HH:MM:SS e.g. 20:11:00
REBID_AWARE_TIME	VARCHAR2(20)	Intended to support the Rebidding and Technical Parameters Guideline . The time when the participant became aware of the event(s) / occurrence(s) that prompted the rebid. Not validated by AEMO
REBID_DECISION_TIME	VARCHAR2(20)	Intended to support the Rebidding and Technical Parameters Guideline . The time when the participant made the decision to rebid. Not validated by AEMO
REBID_CATEGORY	VARCHAR2(1)	Intended to support the Rebidding and Technical Parameters Guideline . A provided rebid category. Not validated by AEMO
REFERENCE_ID	VARCHAR2(100)	A participants unique Reference Id

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Modified tables

Modified column

Field Name	Data type	Comment
OFFERDATE	TIMESTAMP(3)	The time this Bid was processed and loaded

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4.3.8 Modified table: PREDISPATCH.PREDISPATCHOFFERTRK

Name	PREDISPATCHOFFERTRK
Package	PREDISPATCH
Comment	The ancillary service Bid tracking of predispatch processing. PREDISPATCHOFFERTRK identifies which bids from BIDDAYOFFER and BIDPEROFFER were applied for a given unit and ancillary service for each predispatch run
Visibility	Private Public next-day
Trigger	Updated every 30 minutes
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	BIDTYPE, DUID, PERIODID, PREDISPATCHSEQNO

Modified tables

Modified column

Field Name	Data type	Comment
BIDOFFERDATE	TIMESTAMP(3)	Offer date of applied Bid

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4.3.9 Modified table: PREDISPATCH.PREDISPATCH_MNSPBIDTRK

Name	PREDISPATCH_MNSPBIDTRK
Package	PREDISPATCH
Comment	Shows the MNSP Bid tracking, including the Bid version used in each predispatch run for each MNSP Interconnector Link. PREDISPATCH_MNSPBIDTRK shows the audit trail of the Bid used for each predispatch run
Visibility	Public next day
Trigger	After a predispatch run
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	LINKID, PERIODID, PREDISPATCHSEQNO

Modified tables

Modified column

Field Name	Data type	Comment
OFFERDATE	TIMESTAMP(3)	Offer date for Bid

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4.3.10 Modified table: SETTLEMENT_DATA.SETCPDATA

Name	SETCPDATA
Package	SETTLEMENT_DATA
Comment	SETCPDATA shows meter settlement data for each Connection Point. This is the key view for retailers to verify energy charges. A regional summary view is also provided. As the view has values for each Connection Point by period, for each meter data file, it is a very large view.
Visibility	Private
Trigger	Updates after each Settlement run
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	MDA, PARTICIPANTID, PERIODID, SETTLEMENTDATE, TCPID, VERSIONNO

Modified tables

New Columns

Field Name	Data Type	Description	Primary Key
AFE	NUMBER(18,8)	Adjusted Gross Energy for this Market Customer FRMP and TNI in the trading interval, excluding any UFEA component.	N
DME	NUMBER(18,8)	Sum of ME- for all NMI's at this Market Customer FRMP and TNI in the Settlements Trading Interval.	N
UFEA	NUMBER(18,8)	Share of UFE allocated to this FRMP and TNI in the trading interval	N
AGE	NUMBER(18,8)	Adjusted Gross Energy for this Market Customer FRMP and TNI in the trading interval. When GS commences 6 Feb 2022, this includes the UFEA amount in the settlement runs.	N

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Modified Columns

Field Name	Data Type	Description	Primary Key
INENERGY	NUMBER(16,6)	Import Nett energy into the pool - MWh, plus UFEA if the UFEA amount is positive. When GS commences 6 Feb 2022, this includes the UFEA amount in the settlement runs.	N
XNENERGY	NUMBER(16,6)	Export Nett energy from the pool - MWh,, plus (UFEA * -1) if the UFEA amount is negative. When GS commences 6 Feb 2022, this includes the UFEA amount in the settlement runs.	N
PERIODID	NUMBER(3,0)	Settlements Trading Interval.	N

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4.3.11 Modified table: SETTLEMENT_DATA.SETMARKETFEEES

Name	SETMARKETFEEES
------	----------------

Modified tables

Package	SETTLEMENT_DATA
Comment	SETMARKETFEES shows payments for market fees for each settlement date.
Visibility	Private
Trigger	Updates after each Settlement run
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	MARKETFEEID, PARTICIPANTCATEGORYID, PARTICIPANTID, PERIODID, RUNNO, SETTLEMENTDATE

New Columns

Field Name	Data Type	Description	Primary Key
FEERATE	NUMBER(18,8)	The rate applied to this fee for the participant at the settlement date.	N
FEEUNITS	NUMBER(18,8)	The number of units applicable to this fee for the participant, in the trading interval.	N

Modified Columns

Field Name	Data Type	Description	Primary Key
PERIODID	NUMBER(3,0)	Settlements Trading Interval.	N

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4.3.12 Modified table: SETTLEMENT_DATA.SETIRAUCSURPLUS

Name	SETIRAUCSURPLUS
Package	SETTLEMENT_DATA
Comment	This view supports the Settlements Residue Auction, by holding the NSP participant allocations of IRSurplus arising as a result of the unsold units for a quarter.
Visibility	Private
Trigger	Updates after each Settlement run
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	CONTRACTID, FROMREGIONID, INTERCONNECTORID, PARTICIPANTID, PERIODID, SETTLEMENTDATE, SETTLEMENTRUNNO

Modified Columns

Field Name	Data Type	Description	Primary Key
PERIODID	NUMBER(3,0)	Settlements Trading Interval.	Y

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4.3.13 Modified table: SETTLEMENT_DATA.SETIRNSPSURPLUS

Name	SETIRNSPSURPLUS
Package	SETTLEMENT_DATA
Comment	This view supports the Settlements Residue Auction, by showing the TNSP participant allocations of Interconnector Residue (IR) Surplus (i.e. derogated amounts) arising as a result of the sold units for a quarter.
Visibility	Private
Trigger	Updates after each Settlement run
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	CONTRACTID, FROMREGIONID, INTERCONNECTORID, PARTICIPANTID, PERIODID, SETTLEMENTDATE, SETTLEMENTRUNNO

Modified Columns

Field Name	Data Type	Description	Primary key
PERIODID	NUMBER(3,0)	Settlements Trading Interval.	Y

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Modified tables

4.3.14 Modified table: SETTLEMENT_DATA.SETIRPARTSURPLUS

Name	SETIRPARTSURPLUS
Package	SETTLEMENT_DATA
Comment	This view supports the Settlements Residue Auction, holding the participant allocations of IRSurplus.
Visibility	Private
Trigger	Updates after each Settlement run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	CONTRACTID, FROMREGIONID, INTERCONNECTORID, PARTICIPANTID, PERIODID, SETTLEMENTDATE, SETTLEMENTRUNNO

Modified Columns

Field Name	Data Type	Description	Primary key
PERIODID	NUMBER(3,0)	Settlements Trading Interval	Y

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4.4 Tables where data changes

From the commencement of 5MS rule change date, starting with the trading interval ending 00:05 the data populated in PeriodID changes, to reflect the change of trading price from a 30-minute to a 5-minute resolution.

4.4.1 Modified data: Tables with PeriodID change

This section lists the Data Model tables with data changes for the 5MS project, for all settlement days on or after the commencement of 5MS rule change date:

Data Model Table
METERDATA.METERDATA_AGGREGATE_READS
METERDATA.METERDATA_INDIVIDUAL_READS
METERDATA.METERDATA_INTERCONNECTOR
SETTLEMENT_DATA.SET_APC_RECOVERY
SETTLEMENT_DATA.SET_FCAS_PAYMENT
SETTLEMENT_DATA.SET_FCAS_RECOVERY
SETTLEMENT_DATA.SET_NMAS_RECOVERY

Data Model Table
SETTLEMENT_DATA.SET_NMAS_RECOVERY_RBF
SETTLEMENT_DATA.SETCPDATA
SETTLEMENT_DATA.SETCPDATAREGION
SETTLEMENT_DATA.SETFCASREGIONRECOVERY
SETTLEMENT_DATA.SETGENDATA
SETTLEMENT_DATA.SETGENDATAREGION
SETTLEMENT_DATA.SETINTRAREGIONRESIDUES

Data Model Table
SETTLEMENT_DATA.SETIRAUCSURPLUS
SETTLEMENT_DATA.SETIRNSPSURPLUS
SETTLEMENT_DATA.SETIRPARTSURPLUS
SETTLEMENT_DATA.SETIRSURPLUS
SETTLEMENT_DATA.SETLSHEDPAYMENT
SETTLEMENT_DATA.SETLSHEDRECOVERY
SETTLEMENT_DATA.SETMARKETFEEES
SETTLEMENT_DATA.SETREALLOCATIONS
SETTLEMENT_DATA.SETRESERVERECOVERY

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5MS discontinued tables

Data Model Table

SETTLEMENT_DATA.SETRESTARTPAYMENT
SETTLEMENT_DATA.SETRESTARTRECOVERY
SETTLEMENT_DATA.SETRPOWERPAYMENT

Data Model Table

SETTLEMENT_DATA.SETRPOWERRECOVERY
SETTLEMENT_DATA.SETSMALLGENDATA
SETTLEMENT_CONFIG.REALLOCATIONINTERVAL

Data Model Table

TRADING_DATA.TRADINGPRICE
TRADING_DATA.TRADINGINTERCONNECT

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4.5 5MS discontinued tables

Participants must ensure all dependencies on these tables are removed prior to the deployment of this Release otherwise participant processes may be impacted.

With 5MS, the following tables are no longer included in any reports from 5MS Rule Commencement.

Data Model Table

BID .BIDPEROFFER
No longer required to store 30-minute Bid interval data so no further updates from 5MS Rule Commencement.

Data Model Table

BID .MNSP_OFFERTRK
No further updates from 5MS Rule Commencement. The BIDOFFERFILETRK table replaces the MNSP_FILETRK table.

Data Model Table

BID .MNSP_PEROFFER
No longer required to store 30-minute Bid interval data so no further updates from 5MS Rule Commencement.

~~BID~~.MNSP_FILETRK

No further updates from 5MS Rule Commencement. The BIDOFFERFILETRK table replaces the MNSP_FILETRK table.

The 5-minute bidding table MNSP_OFFERPERIOD replaces MNSP_PEROFFER.

BILLING_MR_PAYMENT
BILLING_MR_RECOVERY

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5MS discontinued tables

Data Model Table

BILLING_MR_SHORTFALL
BILLING_MR_SUMMARY
BILLING_RES_TRADER_PAYMENT
BILLING_RES_TRADER_RECOVERY
BILLINGSMELTERREDUCTION
GENUNITMTRINPERIOD
INTERCONNMWFLOW
METERDATA
METERDATA_TRK
METERDATATRK
SET_MR_PAYMENT
SET_MR_RECOVERY
SETAGCPAYMENT
SETAGCRECOVERY
SETFCASCOMP

Data Model Table

SETINTERVENTION
SETINTERVENTIONRECOVERY
SETLUNLOADRECOVERY
SETLUNLOADPAYMENT
SETLUNLOADRECOVERY
SETTLEMENT_DATA.SETIRFMRECOVERY
SETVICBOUNDARYENERGY
SETVICENERGYFIGURES
SETVICENERGYFLOW
TRADING_DATA.TRADINGLOAD
Provided the 5-minute data. No further updates from 5MS Rule Commencement. The existing DISPATCHLOAD table provides the 5-minute data.
TRADING_DATA.TRADINGREGIONSUM
Provided the 5-minute data. No further updates from 5MS Rule Commencement.



4.6 Participant interface changes

4.6.1 New files

Package	MMS Data Model table	File ID	CSV report type
BIDS	BIDDAYOFFER	NEM_BIDS	BIDS,BIDDAYOFFER,1
	BIDDAYOFFER	NEXT_DAY_OFFER_FCAS	BIDS,BIDDAYOFFER,1
	BIDDAYOFFER	NEXT_DAY_OFFER_ENERGY	BIDS,BIDDAYOFFER,1
	BIDOFFERFILETRK	NEM_BIDS	BIDS,BIDOFFERFILETRK,1
	BIDOFFERPERIOD	NEXT_DAY_OFFER_FCAS	BID,BIDOFFERPERIOD,1
	BIDOFFERPERIOD	NEXT_DAY_OFFER_ENERGY	BIDS,BIDOFFERPERIOD,1
	BIDOFFERPERIOD	NEM_BIDS	BIDS,BIDOFFERPERIOD,1
	MNSP_DAYOFFER	NEXT_DAY_OFFER_ENERGY	BIDS,MNSP_DAYOFFER,1
	MNSP_DAYOFFER	NEM_BIDS	BIDS,MNSP_DAYOFFER,1
	MNSP_BIDOFFERPERIOD	NEXT_DAY_OFFER_ENERGY	BIDS,MNSP_OFFERPERIOD,1
	MNSP_BIDOFFERPERIOD	NEM_BIDS	BIDS,MNSP_OFFERPERIOD,1

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Participant interface changes

Package	MMS Data Model table	File ID	CSV report type
TRADING_DATA	AVERAGEPRICE30	TRADINGIS	TRADING,AVERAGEPRICE30,1
	AVERAGEPRICE30	PRICE_REVISION_TRADINGIS	TRADING, AVERAGEPRICE30,1
	TRADINGINTERCONNECT	TRADINGIS	TRADING,TRADINGINTERCONNECT,2
	TRADINGPRICE	PRICE_REVISION_TRADINGIS	TRADING,TRADINGPRICE,2
	TRADINGPRICE	TRADINGIS	TRADING,TRADINGPRICE,2
BILLING_RUN	BILLINGCPDATA	BILLING	BILLING,BILLINGCPDATA,6
	BILLRESERVETRADERPAYMENT	BILLING	BILLING, BILLRESERVETRADERPAYMENT,1
	BILLRESERVETRADERRECOVERY	BILLING	BILLING, BILLRESERVETRADERRECOVERY,1
SETTLEMENT_DATA	DAYTRACK	SETTLEMENTS	SETTLEMENT_DATA,DAYTRACK,6
	SETCPDATA	SETTLEMENTS	SETTLEMENT_DATA,SETCPDATA,6
	SETLOCALAREAENERGY	SETTLEMENTS	SETTLEMENT_DATA,SETLOCALAREAENERGY,1
	SETLOCALAREATNI	SETTLEMENTS	SETTLEMENT_DATA,SETLOCALAREATNI,1
	SETMARKETFEEES	SETTLEMENTS	SETTLEMENT_DATA,SETMARKETFEEES,6

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Participant interface changes

4.6.2 Discontinued files

Package	MMS Data Model table	File ID	CSV report type
BIDS	BIDDAYOFFER	NEXT_DAY_OFFER_FCAS	BID,BIDDAYOFFER,2
	BIDDAYOFFER	NEXT_DAY_OFFER_ENERGY	BID,BIDDAYOFFER,2
	BIDDAYOFFER	BIDOFFERFILETRK	BID,BIDDAYOFFER,4
	BIDDAYOFFER_D	BIDMOVE_SUMMARY	BID,BIDDAYOFFER_D,2
	BIDPEROFFER_D	BIDMOVE_SUMMARY	BID,BIDDAYOFFER_D,2
	BIDOFFERFILETRK	BIDOFFERFILETRK	BID,BIDDAYOFFER,3
	BIDPEROFFER	NEXT_DAY_OFFER_FCAS	BID,BIDPEROFFER,1
	BIDPEROFFER	NEXT_DAY_OFFER_ENERGY	BID,BIDPEROFFER,1
	BIDPEROFFER	BIDOFFERFILETRK	BID,BIDPEROFFER,3
	MNSP_DAYOFFER	NEXT_DAY_OFFER_ENERGY	BID,MNSP_DAYOFFER,2
	MNSP_DAYOFFER	BID_MNSP	BID,MNSP_DAYOFFER,2
	MNSP_FILETRK	BID_MNSP_FILETRK	BID,MNSP_FILETRK,2

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Participant interface changes

Package	MMS Data Model table	File ID	CSV report type
	MNSP_OFFERTRK	NEXT_DAY_OFFER_ENERGY	BID,MNSP_OFFERTRK,1
	MNSP_OFFERTRK	BID_MNSP_OFFERTRK	BID,MNSP_OFFERTRK,1
	MNSP_PEROFFER	NEXT_DAY_OFFER_ENERGY	BID,MNSP_PEROFFER,1
	MNSP_PEROFFER	BID_MNSP	BID,MNSP_PEROFFER,1
TRADING_DATA	TRADINGLOAD	TRADINGIS	TRADING,TRADINGLOAD,2
	TRADINGLOAD	NEXT_DAY_TRADING	TRADING,TRADINGLOAD,2
	TRADINGREGIONSUM	TRADINGIS	TRADING,TRADINGREGIONSUM,4
Non-Data Model MONTHLY_DVD		DVD_BIDDAYOFFER_D	
		DVD_BIDPEROFFER_D	

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4.7 File interface changes

4.7.1 ~~File~~ ~~Data Model~~ design changes

Replication of Dispatch Bid/Offer files

The following files AEMO sends to participants after receiving their 30-minute Bid/Offer are extending to include emulated 5-minute period reports in pre-production and production:

- **BID MNSP**: Includes the 30-minute period data (48 records) and a new emulated 5-minute period report (288 records).
- **BIDOFFERFILETRK** (existing 30-minute file): Includes the 30-minute period data (48 records) and a new emulated 5-minute period report (288 records).
This file discontinues on commencement of the 5MS Rule Change.

~~4.7.1~~ The change adds an emulated 288 period record set for 5-minute durations, duplicating the existing 48 period for 30-minute durations. Including 5- and 30-minute periods allows participants to maintain consistency in the MMS Data Model across the current 30-minute Bid/Offer period table (BIDPEROFFER) and the new 5-minute Bid/Offer period table (BIDOFFERPERIOD).

~~1. For the duration of 5MS Bidding Transition, the Data Model design is extended to include in the:~~

There is a corresponding change in pre-production for 5-minute Bid/Offer submissions:

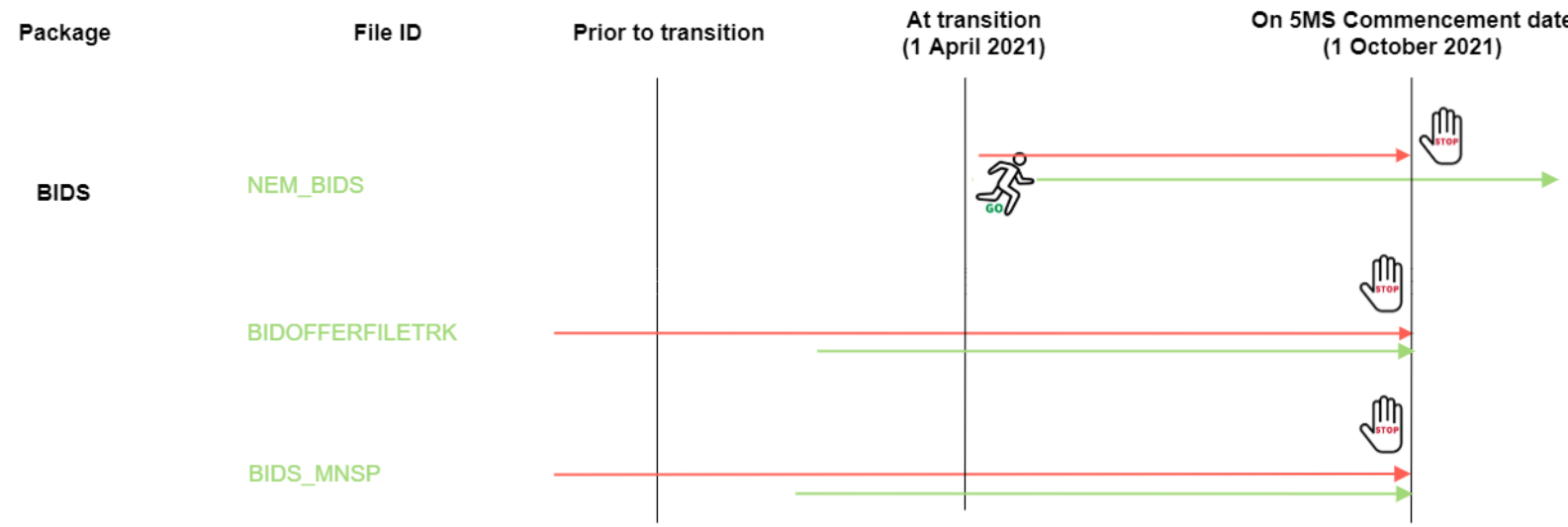
- **NEM BIDS** (new 5-minute file): Includes the 5-minute period data (288 records) and a new emulated 30-minute period report (48 records).

All 30-minute report versions in these files discontinue on commencement of the 5MS rule change.

Tentative schedule

- Pre-production: 1 March 2021
- Production: 8 March 2021

File interface changes



Next Day Offers

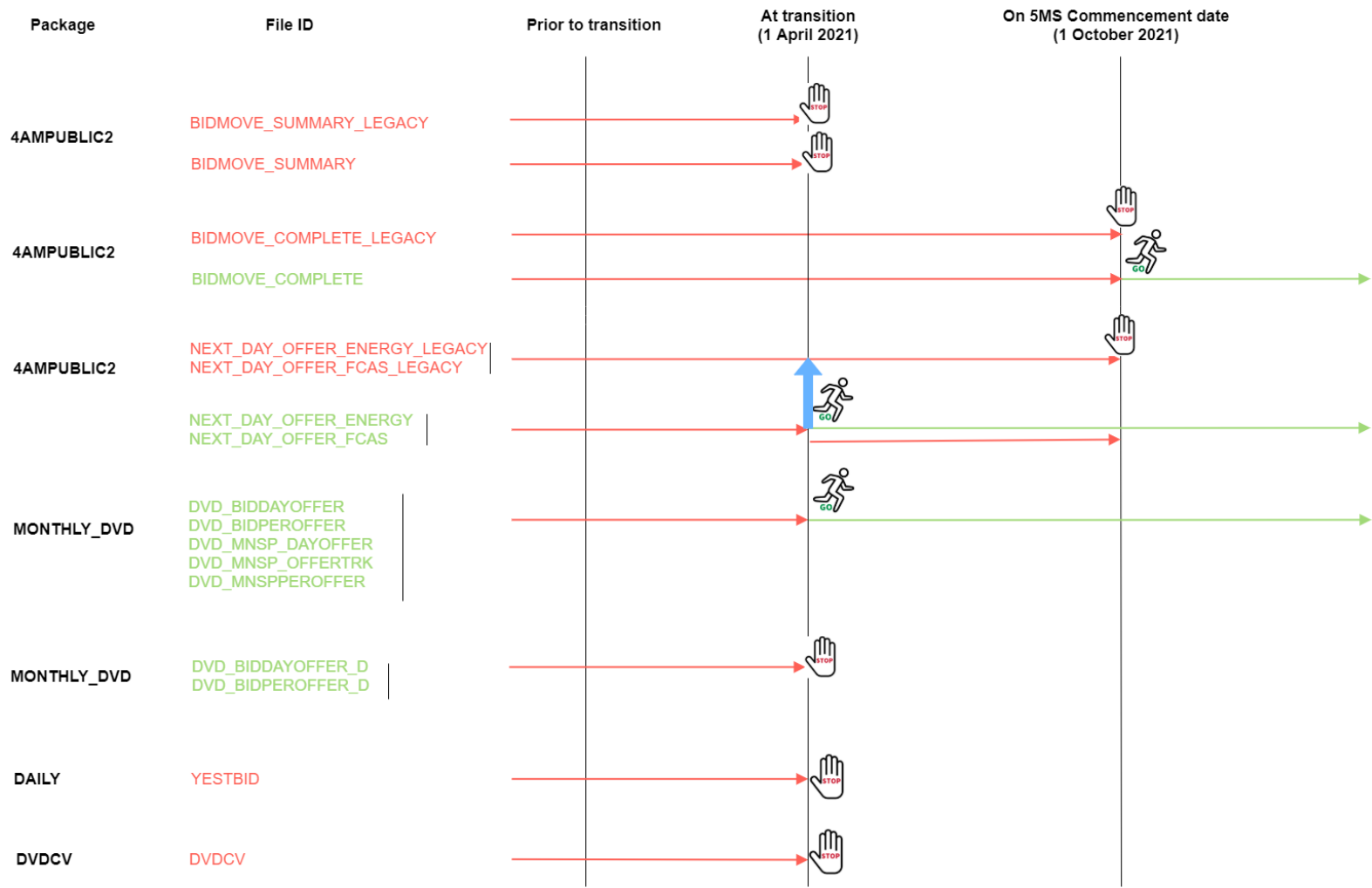
For the duration of 5MS Bidding Transition, the file interface design is extended to include in the:

- **Next Day Offer Energy** file+D: the 5-minute BIDOFFERPERIOD, 5-minute MNSP_BIDOFFERPERIOD, 30-minute BIDPEROFFER, and 30-minute MNSP_PEROFFER reports.
The 30-minute reports remain in the file during 5MS Bidding Transition only.
- **Next Day Offer FCAS** file+D: the 5-minute BIDOFFERPERIOD and 30-minute BIDPEROFFER reports.
The 30-minute report remains in the file during 5MS Bidding Transition only.

File interface changes

- | From 5MS Rules Commencement, the 5MS Bidding Transition Bid/Offer availabilities may change for each 5-minute Interval making it impossible to represent Bid/Offer on a 30-minute period basis.
- | The Next Day Offer Legacy reports maintain the 30-minute data so participants can migrate from the Legacy to the Current files once they have upgraded their Data Model to version 5.0.

File interface changes



4.7.2 File changes

Package	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
BIDS	NEM_BIDS	New 5-minute file with the 5-minute period data (288 records)	*_NEM_BIDS *.CSV	On participant Submission	New Includes emulated 30-minute period report (48 records) until 5MS Rules Commencement	Yes
BIDS	NEXT_DAY_OFFER_FCAS	All FCAS bids from the previous trading day	*_NEXT_DAY_OFFER_FCAS_*.CSV	On participant Submission	Modified	No
	NEXT_DAY_OFFER_ENERGY	All Energy and MNSP bids from the previous trading day	*_NEXT_DAY_OFFER_ENERGY_*.CSV	On participant Submission	Modified	No

File interface changes

Package	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
	BIDOFFERFILETRK	Shows an audit trail of all files submitted containing an FCAS Bid, including corrupt bids and rebids	*_BID_*.CSV	On participant Submission	<u>Discontinued</u> <u>Includes the 5-minute period report (288 records) until 5MS Rules Commencement Modified</u>	Yes
	<u>BIDMOVE_COMPLETE</u>	<u>Contains the 30-minute period data</u>	<u>* BIDMOVE_COMPLETE *.CSV</u>	<u>On participant Submission</u>	<u>Modified</u> <u>Includes the 5-minute period report (288 records) until 5MS Rules Commencement</u>	<u>Yes</u>
	BIDMOVE_SUMMARY	Summary of the energy and FCAS offers used in Dispatch	*_BIDMOVE_SUMMARY_*.CSV	On next trading day	Discontinued	No

File interface changes

Package	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
	BID_MNSP	MNSP Bid details	*_BID_MNSP_*.CSV	On participant Submission	Discontinued Includes the 5-minute period report (288 records) until 5MS Rules Commencement Modified	No
	BID_MNSP_FILETRK	All files submitted containing an MNSP Bid, including corrupt bids and rebids	*_BID_MNSP_FILETRK_*.CSV	On participant Submission	Discontinued	No
	TRADINGIS	30-minute Trading Interval Results	*_TRADINGIS_*.CSV	Every dispatch interval	Modified	No
TRADING_DATA	PRICE_REVISION_TRADINGIS	30-minute price revision updates	*_PRICE_REVISION_TRADINGIS_*.CSV	On price revisions	Modified	No
	NEXT_DAY_TRADING	30-minute Trading Interval Results	*_NEXT_DAY_TRADING_*.CSV	On next trading day	Modified	No

File interface changes

Package	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
BILLING_RUN	BILLING	Modifies the BILLINGCPDATA table and the tables contain information for five-minute periods instead of 30-minute periods. Adds BILLRESERVETRADERPAYMENT and BILLRESERVETRADERRECOVERY for RERT payments and recovery for participants.	*_BILLING_*.CSV	Weekly	Modified	No
SETTLEMENT_DATA	SETTLEMENTS	Modifies the DAYTRACK, SETCPDATA, SETMARKETFEEES tables and adds new tables for SETLOCALAREAENERGY, SETLOCALAREATNI tables and the tables contain information for five-minute periods instead of 30-minute periods.	*_SETTLEMENT_DATA*.CSV	Daily	Modified	No

4.8 Discontinued reports

File ID	MMS Data Model table	Delivered in file	CSV report type	Replaced by
NEXT_DAY_OFFER_ENERGY	BIDDAYOFFER	*_NEXT_DAY_OFFER_ENERGY_*.CSV	OFFER,BIDDAYOFFER,2	BIDS,BIDDAYOFFER,1
NEXT_DAY_OFFER_ENERGY	MNSP_DAYOFFER	*_NEXT_DAY_OFFER_ENERGY_*.CSV	OFFER, MNSP_DAYOFFER,2	BIDS, MNSP_DAYOFFER,1
NEXT_DAY_OFFER_FCAS	BIDDAYOFFER	*_NEXT_DAY_OFFER_FCAS_*.CSV	OFFER, BIDDAYOFFER,2	BIDS, BIDDAYOFFER,1
NEXT_DAY_OFFER_ENERGY	BIDPEROFFER	*_NEXT_DAY_OFFER_ENERGY_*.CSV	OFFER,BIDPEROFFER,2	BIDS,BIDOFFERPERIOD,1
NEXT_DAY_OFFER_FCAS	BIDPEROFFER	*_NEXT_DAY_OFFER_FCAS_*.CSV	OFFER,BIDPEROFFER,2	BIDS,BIDOFFERPERIOD,1

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5 Electricity Data Model v5.00 – Non-5MS Updates

This section describes the affected packages, tables, files, reports, and interfaces that change as a result of non-5MS rule changes.

These changes are not available in the 5MS Staging environment. These will be available in the pre-production and production environments during the November release.

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

5.1 Modified packages and tables

Package	Table name	Change	Details	PK
DEMAND_FORECASTS	DEMANDOPERATIONALACTUAL	Modified table	Adds new column – OPERATIONS_DEMAND_ADJUSTMENT.	INTERVAL_DATETIME + REGIONID
	INTERMITTENT_CLUSTER_AVAIL	Modified visibility	Private; Public Next-Day.	TRADINGDATE + DUID + OFFERDATETIME + CLUSTERID + PERIODID
	INTERMITTENT_CLUSTER_AVAIL_Day	Modified visibility	Private; Public Next-Day.	TRADINGDATE + DUID + OFFERDATETIME + CLUSTERID

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Modified packages and tables

Package	Table name	Change	Details	PK
	INTERMITTENT_GEN_LIMIT	Modified visibility	Private; Public Next-Day.	TRADINGDATE + DUID + OFFERDATETIME + PERIODID
	INTERMITTENT_GEN_LIMIT_DAY	Modified visibility	Private; Public Next-Day.	TRADINGDATE + DUID + OFFERDATETIME
MTPASA	MTPASA_DUIDAVAILABILITY	New table	Stores the DUID offered PASA Availability of scheduled generators for each day over the Medium Term PASA period.	
	MTPASA_REGIONRESULT	Modified table	Adds new columns – TOTALAVAILABLEGENMIN, TOTALAVAILABLEGEN10, TOTALAVAILABLEGEN50, TOTALAVAILABLEGEN90, TOTALAVAILABLEGENMAX.	DAY + DEMAND_POE_TYPE + REGIONID + RUN_DATETIME + RUN_NO + RUNTYPE
	MTPASA_REGIONAVAILABILITY	Modified table	Adds new columns – DEMAND10MIN, DEMAND10MAX, DEMAND50MIN, DEMAND50MAX.	DAY + PUBLISH_DATETIME + REGIONID

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Modified packages and tables

Package	Table name	Change	Details	PK
P5MIN	P5MIN_INTERSENSITIVITIES	New table	Sets out the sensitivity flows for each interconnector for 5MinPD solution.	RUN_DATETIME + INTERCONNECTORID + INTERVAL_DATETIME
	P5MIN_PRICESENSITIVITIES	New table	Price Sensitivities for 5MinPD solution	RUN_DATETIME + REGIONID + INTERVAL_DATETIME
	P5MIN_SCENARIODEMAND	New table	The P5Min scenario MW offsets	EFFECTIVEDATE + VERSION_DATETIME + REGIONID + SCENARIO
	P5MIN_SCENARIODEMANDTRK	New table	Tracks the 5Min scenario offset updates across time	EFFECTIVEDATE + VERSION_DATETIME
PDPASA	PDPASA_INTERCONNECTORSOLN	New table	PDPASA_INTERCONNECTORSOLN shows the results of the capacity evaluation for Interconnectors, including the calculated limits for the interval.	
	PDPASA_CONSTRAINTSOLUTION	New table	PDPASA_CONSTRAINTSOLUTION shows binding and violated constraint results from the capacity evaluation, including the RHS value.	

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Package: DEMAND_FORECASTS

Package	Table name	Change	Details	PK
STPASA_SOLUTION	STPASA_INTERCONNECTORSOLN	Modified table	Adds new column – STUDYREGIONID.	INTERCONNECTORID + INTERVAL_DATETIME + RUN_DATETIME + RUNTYPE + STUDYREGIONID
	STPASA_CONSTRAINTSOLUTION	Modified table	Adds new column – STUDYREGIONID.	CONSTRAINTID + INTERVAL_DATETIME + RUN_DATETIME + RUNTYPE + STUDYREGIONID

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5.2 Package: DEMAND_FORECASTS

Regional Demand Forecasts and Intermittent Generation forecasts.

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5.2.1 Modified table: DEMANDOPERATIONALACTUAL

Name	DEMANDOPERATIONALACTUAL
Comment	Shows Actual Operational Demand for a particular date time interval
Visibility	Public

Trigger	Ad hoc
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	INTERVAL_DATETIME, REGIONID

Added columns

Field Name	Data type	Mandatory	Comment
OPERATIONAL_DEMAND_ADJUSTMENT	Number(10,0)	N	Adjustment value containing the estimated amount of activated RERT and involuntary load shedding that occurred as a result of a NER 4.8.9 instruction for load shedding from AEMO.

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5.2.2 Modified table: INTERMITTENT_CLUSTER_AVAIL

Only changes the visibility for this table. No other Data Model table changes.

Name	INTERMITTENT_CLUSTER_AVAIL
Comment	A submission of Elements Unavailable for an intermittent generating unit cluster, by Trading Day and Trading Interval.
Visibility	Private; Public – Next day.
Trigger	On data submission
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS

Primary key (in order)	TRADINGDATE, DUID, OFFERDATETIME, CLUSTERID, PERIODID.
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5.2.3 Modified table: INTERMITTENT_CLUSTER_AVAIL_DAY

Only changes the visibility for this table. No other Data Model table changes.

Name	INTERMITTENT_CLUSTER_AVAIL_DAY
Comment	Summary record for an Elements Unavailable submission for an intermittent generating unit cluster for a Trading Day.
Visibility	Private; Public – Next day.
Trigger	On data submission
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	TRADINGDATE, DUID, OFFERDATETIME, CLUSTERID.

5.2.4 Modified table: INTERMITTENT_GEN_LIMIT

Only changes the visibility for this table. No other Data Model table changes.

Name	INTERMITTENT_GEN_LIMIT
Comment	A submission of Upper MW Limit for an intermittent generating unit, by Trading Day and Trading Interval.
Visibility	Private; Public – Next day.

Trigger	On data submission
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	TRADINGDATE, DUID, OFFERDATETIME, PERIODID.

5.2.5 Modified table: INTERMITTENT_GEN_LIMIT_DAY

Only changes the visibility for this table. No other Data Model table changes.

Name	INTERMITTENT_GEN_LIMIT_DAY
Comment	Summary record for an Upper MW Limit submission for an intermittent generating unit for a Trading Day.
Visibility	Private; Public – Next day.
Trigger	On data submission
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	TRADINGDATE, DUID, OFFERDATETIME.

5.3 Package: MTPASA

Results from a published Medium Term PASA Run and region-aggregate offered PASA Availability of scheduled generators.

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5.3.1 New table: MTPASA_DUIDAVAILABILITY

Name	MTPASA_DUIDAVAILABILITY
Comment	Offered PASA Availability of the scheduled generator DUID for each day over the Medium Term PASA period. The data in this table is input data to the MT PASA process it is not part of the MTPASA solution. The availability does not reflect any energy limitations in the MT PASA offers
Visibility	Public
Trigger	MTPASA_DUIDAVAILABILITY is updated each MTPASA run (i.e. every three hours).
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	PUBLISH_DATETIME, DAY, REGIONID, DUID

Added columns

Field Name	Data type	Mandatory	Comment
PUBLISH_DATETIME	DATE	Y	Date Time the report was published.
DAY	DATE	Y	Date on which the PASA availability of DUID applies.
REGIONID	VARCHAR2(20)	Y	NEM Region.
DUID	VARCHAR2(20)	Y	NEM DUID.
PASAAVAILABILITY	NUMBER(12,0)	N	Offered PASA Availability of Scheduled generator DUID for the day.
LATEST_OFFER_DATETIME	DATE	N	Date Time of the latest offer used for DUID for this date.
LASTCHANGED	DATE	N	Last date and time record changed.

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5.3.2 Modified table: MTPASA_REGIONRESULT

Name	MTPASA_REGIONRESULT
Comment	Region results for interval of max demand per day.
Visibility	Public
Trigger	MTPASA_REGIONRESULT is updated each MTPASA run (i.e. every 7 days).

Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	DAY, DEMAND_POE_TYPE, REGIONID, RUN_DATETIME, RUN_NO, RUNTYPE

Added columns

Field Name	Data type	Mandatory	Comment
TOTALAVAILABLEGENMIN	NUMBER(12,2)	N	Minimum Available Capacity, across iterations and reference years (MW)
TOTALAVAILABLEGEN10	NUMBER(12,2)	N	The 10% percentile for Available Capacity, across iterations and reference years (MW)
TOTALAVAILABLEGEN50	NUMBER(12,2)	N	The 50% percentile for Available Capacity, across iterations and reference years (MW)
TOTALAVAILABLEGEN90	NUMBER(12,2)	N	The 90% percentile for Available Capacity, across iterations and reference years (MW)
TOTALAVAILABLEGENMAX	NUMBER(12,2)	N	Maximum Available Capacity, across iterations and reference years (MW)

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5.3.3 Modified table: MTPASA_REGIONAVAILABILITY

Name	MTPASA_REGIONAVAILABILITY
Comment	Stores the Region-aggregate offered PASA Availability of scheduled generators for each day over the Medium Term PASA period. The data in this table is an aggregate of input data to the MT PASA process it is not part of the MTPASA solution. The aggregate availability does not reflect any energy limitations in the MT PASA offers.

Visibility	Public
Trigger	MTPASA_REGIONAVAILABILITY is updated each MTPASA run (i.e. every three hours).
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	DAY, PUBLISH_DATETIME, REGIONID

Added columns

Field Name	Data type	Mandatory	Comment
DEMAND10MIN	NUMBER(12,2)	N	Minimum of the Operational Lead as Generated (OPGEN) peaks that occur in all ref years for the P10 traces (MW)
DEMAND10MAX	NUMBER(12,2)	N	Maximum of the Operational Lead as Generated (OPGEN) peaks that occur in all ref years for the P10 traces (MW)
DEMAND50MAX	NUMBER(12,2)	N	Maximum of the Operational Lead as Generated (OPGEN) peaks that occur in all ref years for the P50 traces (MW)
DEMAND50MIN	NUMBER(12,2)	N	Minimum of the Operational Lead as Generated (OPGEN) peaks that occur in all ref years for the P50 traces (MW)

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5.4 Package: P5MIN

Price sensitivities for 5MinPD solution (similar to the Pre-dispatch sensitivities model)

5.4.1 New table: P5MIN_INTERSENSITIVITIES

Name	P5MIN_INTERSENSITIVITIES
Comment	Sets out the sensitivity flows for each interconnector for 5MinPD solution. Current Scenarios defined in P5MIN_SCENARIODEMANDTRK/P5MIN_SCENARIODEMAND
Visibility	Public
Trigger	New solution every 5 minutes
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	RUN_DATETIME + INTERCONNECTORID + INTERVAL_DATETIME

Added columns

Field Name	Data type	Mandatory	Comment
RUN_DATETIME	DATE	Y	Definitive Run from which this solution derives
INTERCONNECTORID	VARCHAR2(20)	Y	Interconnector identifier
INTERVAL_DATETIME	DATE	Y	The unique identifier for the interval within this study

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Field Name	Data type	Mandatory	Comment
INTERVENTION	NUMBER(2,0)	Y	Flag to indicate if this result set was sourced from the pricing run (INTERVENTION=0) or the physical run (INTERVENTION=1). In the event there is not intervention in the market, both pricing and physical runs correspond to INTERVENTION=0)
INTERVENTION_ACTIVE	NUMBER(1,0)	N	Flag to indicate if this period has an active intervention constraint: 0= No, 1= Yes
MWFLOW1	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 1
MWFLOW2	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 2
MWFLOW3	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 3
MWFLOW4	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 4
MWFLOW5	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 5
MWFLOW6	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 6
MWFLOW7	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 7
MWFLOW8	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 8
MWFLOW9	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 9
MWFLOW10	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 10
MWFLOW11	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 11

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Field Name	Data type	Mandatory	Comment
MWFLOW12	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 12
MWFLOW13	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 13
MWFLOW14	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 14
MWFLOW15	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 15
MWFLOW16	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 16
MWFLOW17	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 17
MWFLOW18	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 18
MWFLOW19	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 19
MWFLOW20	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 20
MWFLOW21	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 21
MWFLOW22	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 22
MWFLOW23	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 23
MWFLOW24	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 24

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Field Name	Data type	Mandatory	Comment
MWFLOW25	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 25
MWFLOW26	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 26
MWFLOW27	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 27
MWFLOW28	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 28
MWFLOW29	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 29
MWFLOW30	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 30
MWFLOW31	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 31
MWFLOW32	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 32
MWFLOW33	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 33
MWFLOW34	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 34
MWFLOW35	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 35
MWFLOW36	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 36
MWFLOW37	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 37

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Package: P5MIN

Field Name	Data type	Mandatory	Comment
MWFLOW38	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 38
MWFLOW39	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 39
MWFLOW40	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 40
MWFLOW41	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 41
MWFLOW42	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 42
MWFLOW43	NUMBER(15,5)	N	Flow1 = MW flow for given Interconnector for Scenario 43
LASTCHANGED	DATE	N	Timestamp when this record was last modified

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5.4.2 New table: P5MIN_PRICESENSITIVITIES

Name	P5MIN_PRICESENSITIVITIES
Comment	Price Sensitivities for 5MinPD solution
Visibility	Public
Trigger	New solution every 5 minutes

Package: P5MIN

Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	RUN_DATETIME + REGIONID + INTERVAL_DATETIME

Added columns

Field Name	Data type	Mandatory	Comment
RUN_DATETIME	DATE	Y	Definitive run from which this solution derives
REGIONID	VARCHAR2(20)	Y	Region
INTERVAL_DATETIME	DATE	Y	The unique identifier for the interval within this study
INTERVENTION	NUMBER(2,0)	Y	Whether an Intervention constraint was defined in this run
INTERVENTION_ACTIVE	NUMBER(1,0)	N	Flag to indicate if this period has an active intervention constraint: 0= No, 1= Yes
RRP1	NUMBER(15,5)	N	Regional Reference Price for scenario 1
RRP2	NUMBER(15,5)	N	Regional Reference Price for scenario 2
RRP3	NUMBER(15,5)	N	Regional Reference Price for scenario 3
RRP4	NUMBER(15,5)	N	Regional Reference Price for scenario 4
RRP5	NUMBER(15,5)	N	Regional Reference Price for scenario 5

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Package: P5MIN

Field Name	Data type	Mandatory	Comment
RRP6	NUMBER(15,5)	N	Regional Reference Price for scenario 6
RRP7	NUMBER(15,5)	N	Regional Reference Price for scenario 7
RRP8	NUMBER(15,5)	N	Regional Reference Price for scenario 8
RRP9	NUMBER(15,5)	N	Regional Reference Price for scenario 9
RRP10	NUMBER(15,5)	N	Regional Reference Price for scenario 10
RRP11	NUMBER(15,5)	N	Regional Reference Price for scenario 11
RRP12	NUMBER(15,5)	N	Regional Reference Price for scenario 12
RRP13	NUMBER(15,5)	N	Regional Reference Price for scenario 13
RRP14	NUMBER(15,5)	N	Regional Reference Price for scenario 14
RRP15	NUMBER(15,5)	N	Regional Reference Price for scenario 15
RRP16	NUMBER(15,5)	N	Regional Reference Price for scenario 16
RRP17	NUMBER(15,5)	N	Regional Reference Price for scenario 17
RRP18	NUMBER(15,5)	N	Regional Reference Price for scenario 18

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Package: P5MIN

Field Name	Data type	Mandatory	Comment
RRP19	NUMBER(15,5)	N	Regional Reference Price for scenario 19
RRP20	NUMBER(15,5)	N	Regional Reference Price for scenario 20
RRP21	NUMBER(15,5)	N	Regional Reference Price for scenario 21
RRP22	NUMBER(15,5)	N	Regional Reference Price for scenario 22
RRP23	NUMBER(15,5)	N	Regional Reference Price for scenario 23
RRP24	NUMBER(15,5)	N	Regional Reference Price for scenario 24
RRP25	NUMBER(15,5)	N	Regional Reference Price for scenario 25
RRP26	NUMBER(15,5)	N	Regional Reference Price for scenario 26
RRP27	NUMBER(15,5)	N	Regional Reference Price for scenario 27
RRP28	NUMBER(15,5)	N	Regional Reference Price for scenario 28
RRP29	NUMBER(15,5)	N	Regional Reference Price for scenario 29
RRP30	NUMBER(15,5)	N	Regional Reference Price for scenario 30
RRP31	NUMBER(15,5)	N	Regional Reference Price for scenario 31

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Package: P5MIN

Field Name	Data type	Mandatory	Comment
RRP32	NUMBER(15,5)	N	Regional Reference Price for scenario 32
RRP33	NUMBER(15,5)	N	Regional Reference Price for scenario 33
RRP34	NUMBER(15,5)	N	Regional Reference Price for scenario 34
RRP35	NUMBER(15,5)	N	Regional Reference Price for scenario 35
RRP36	NUMBER(15,5)	N	Regional Reference Price for scenario 36
RRP37	NUMBER(15,5)	N	Regional Reference Price for scenario 37
RRP38	NUMBER(15,5)	N	Regional Reference Price for scenario 38
RRP39	NUMBER(15,5)	N	Regional Reference Price for scenario 39
RRP40	NUMBER(15,5)	N	Regional Reference Price for scenario 40
RRP41	NUMBER(15,5)	N	Regional Reference Price for scenario 41
RRP42	NUMBER(15,5)	N	Regional Reference Price for scenario 42
RRP43	NUMBER(15,5)	N	Regional Reference Price for scenario 43
LASTCHANGED	DATE	N	Timestamp when this record was last modified

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5.4.3 New table: P5MIN_SCENARIODEMAND

Name	P5MIN_SCENARIODEMAND
Comment	The P5Min scenario MW offsets
Visibility	Public
Trigger	Triggered when P5MIN scenarios are updated
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	EFFECTIVEDATE + VERSION_DATETIME + REGIONID + SCENARIO

Added columns

Field Name	Data type	Mandatory	Comment
EFFECTIVEDATE	DATE	Y	The effective date of this set of scenarios
VERSION_DATETIME	DATE	Y	The version of this set of scenarios
SCENARIO	NUMBER(2,0)	Y	The scenario identifier
REGIONID	VARCHAR2(20)	Y	The region to which to apply the deltaMW for this scenario
DELTAMW	NUMBER(4,0)	N	The MW offset to apply to region total demand for this scenario

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5.4.4 New table: P5MIN_SCENARIODEMANDTRK

Name	P5MIN_SCENARIODEMANDTRK
Comment	Tracks the 5Min scenario offset updates across time
Visibility	Public
Trigger	Triggered when P5MIN scenarios are updated
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	EFFECTIVEDATE + VERSION_DATETIME

Added columns

Field Name	Data type	Mandatory	Comment
EFFECTIVEDATE	DATE	Y	The effective date of this set of scenarios
VERSION_DATETIME	DATE	Y	The version of this set of scenarios
AUTHORISEDDATE	DATE	N	The datetime the scenario update was authorised
LASTCHANGED	DATE	N	The datetime the record was last changed

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5.5 Package: PDPASA

The PDPASA package provides a 30-minute solving process to the Market systems.

The current methodology for calculating reserves in the PreDispatch timeframe is determined in a post processing step using a heuristic calculation based the results and Interconnector limits from the PreDispatch run.

The calculation is a reserve assessment based on the PASA solver similar to existing ST and MT PASA business processes.

The process reflects all intra-regional and inter-regional network constraints as an input to the process

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5.5.1 New table: PDPASA_INTERCONNECTORSOLN

Name	PDPASA_INTERCONNECTORSOLN
Comment	PDPASA_INTERCONNECTORSOLN shows the results of the capacity evaluation for Interconnectors, including the calculated limits for the interval.
Visibility	Public
Trigger	PDPASA_INTERCONNECTORSOLN is updated each PDPASA run (i.e. half-hourly).
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	RUN_DATETIME, RUNTYPE,INTERVAL_DATETIME, INTERCONNECTORID,STUDYREGIONID

Added columns

Field Name	Data type	Mandatory	Comment
RUN_DATETIME	DATE	Y	Unique Timestamp Identifier for this study.
INTERVAL_DATETIME	DATE	Y	The unique identifier for the interval within this study.
INTERCONNECTORID	VARCHAR2(10)	Y	Interconnector identifier.
CAPACITYMWFLOW	NUMBER(12,2)	N	Interconnector loading level (MW) that can be reached in case of capacity scarcity in neighbouring regions subject to network and energy constraints.
CAPACITYMARGINALVALUE	NUMBER(12,2)	N	Capacity adequacy assessment marginal value, 0 if not binding
CAPACITYVIOLATIONDEGREE	NUMBER(12,2)	N	Capacity adequacy assessment violation degree for interconnector capacity; 0 if not violating
CALCULATEDEXPORTLIMIT	NUMBER(12,2)	N	Calculated Interconnector limit of exporting energy on the basis of invoked constraints and static interconnector export limit
CALCULATEDIMPORTLIMIT	NUMBER(12,2)	N	Calculated Interconnector limit of importing energy on the basis of invoked constraints and static interconnector import limit. Note unlike the input interconnector import limit this is a directional quantity and should be defined with respect to the interconnector flow.
LASTCHANGED	DATE	N	Last changed date of this record
RUNTYPE	VARCHAR2(20)	Y	Type of run. Values are RELIABILITY_LRC and OUTAGE_LRC
EXPORTLIMITCONSTRAINTID	VARCHAR2(20)	N	ID of the constraint that sets the Interconnector Export Limit

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Package: PDPASA

Field Name	Data type	Mandatory	Comment
IMPORTLIMITCONSTRAINTID	VARCHAR2(20)	N	ID of the constraint that sets the Interconnector Import Limit
STUDYREGIONID	VARCHAR2(10)	Y	Primary Region for LP Solve (or MARKET if none)

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5.5.2 New table: PDPASA_CONSTRAINTSOLUTION

Name	PDPASA_CONSTRAINTSOLUTION
Comment	PDPASA_CONSTRAINTSOLUTION shows binding and violated constraint results from the capacity evaluation, including the RHS value.
Visibility	Public
Trigger	PDPASA_CONSTRAINTSOLUTION is updated each PDPASA run (i.e. half-hourly).
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	RUN_DATETIME, RUNTYPE, INTERVAL_DATETIME, CONSTRAINTID, STUDYREGIONID

Added columns

Field Name	Data type	Mandatory	Comment
RUN_DATETIME	DATE	Y	Unique Timestamp Identifier for this study.
INTERVAL_DATETIME	DATE	Y	The unique identifier for the interval within this study.

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Field Name	Data type	Mandatory	Comment
CONSTRAINTID	VARCHAR2(20)	Y	Constraint identifier (synonymous with GenConID).
CAPACITYRHS	NUMBER(12,2)	N	The RHS value in the capacity evaluation.
CAPACITYMARGINALVALUE	NUMBER(12,2)	N	Capacity adequacy assessment marginal value, 0 if not binding.
CAPACITYVIOLATIONDEGREE	NUMBER(12,2)	N	Capacity adequacy assessment violation degree for generic constraint; 0 if not violating.
LASTCHANGED	DATE	N	Last changed date of this record.
RUNTYPE	VARCHAR2(20)	Y	Type of run. Values are RELIABILITY_LRC and OUTAGE_LRC.
STUDYREGIONID	VARCHAR2(10)	Y	Primary Region for LP Solve (or MARKET if none).

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5.6 Package: STPASA_SOLUTION

Results from a published Short Term PASA Run.

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5.6.1 Modified table: STPASA_INTERCONNECTORSOLN

Name	STPASA_INTERCONNECTORSOLN
Comment	STPASA_INTERCONNECTORSOLN shows the results of the capacity evaluation for Interconnectors, including the calculated limits for the interval.
Visibility	Public
Trigger	STPASA_INTERCONNECTORSOLN is updated each STPASA run (i.e. every 2 hours).
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	RUN_DATETIME, RUNTYPE, INTERVAL_DATETIME, INTERCONNECTORID, STUDYREGIONID

Added columns

Field Name	Data type	Mandatory	Comment
STUDYREGIONID	VARCHAR2(10)	Y	Primary Region for LP Solve (or MARKET if none)

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5.6.2 Modified table: STPASA_CONSTRAINTSOLUTION

Name	STPASA_CONSTRAINTSOLUTION
Comment	STPASA_CONSTRAINTSOLUTION shows binding and violated constraint results from the capacity evaluation, including the RHS value.
Visibility	Public
Trigger	STPASA_CONSTRAINTSOLUTION is updated each STPASA run (i.e. every 2 hours).
Participant file share location	<#INTERFACE>\<#PARTICIPANTID>\IMPORT\CSV\REPORTS
Primary key (in order)	RUN_DATETIME, RUNTYPE, INTERVAL_DATETIME, CONSTRAINTID, STUDYREGIONID

Added columns

Field Name	Data type	Mandatory	Comment
STUDYREGIONID	VARCHAR2(10)	Y	Primary Region for LP Solve (or MARKET if none)

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5.7 Participant interfaces changes

For more information about Legacy Files, see the DI help, Using the Data Interchange software > Framework and Glossary > Legacy Files.

For more information about Legacy Files, see the DI help, Using the Data Interchange software > Framework and Glossary > Legacy Files.

Package Name	MMS Data Model table	File ID	CSV report type	Change
DEMAND_FORECASTS	DEMANDOPERATIONALACTUAL	ACTUAL_OPERATIONAL_DEMAND_DAILY , ACTUAL_OPERATIONAL_DEMAND_HH,ACTUAL_OPERATIONAL_DEMAND_UPDATE	OPERATIONAL_DEMAND,ACTUAL,2	Modified
	INTERMITTENT_CLUSTER_AVAIL	AVAIL_SUBMISS_CLUSTER	DEMAND, INTERMITTENT_CLUSTER_AVAIL,2	Modified
	INTERMITTENT_CLUSTER_AVAIL_DAY	AVAIL_SUBMISS_CLUSTER	DEMAND, INTERMITTENT_CLUSTER_AVAIL_DAY,2	Modified
	INTERMITTENT_GEN_LIMIT	AVAIL_SUBMISS_DAY	DEMAND, INTERMITTENT_GEN_LIMIT,2	Modified
	INTERMITTENT_GEN_LIMIT_DAY	AVAIL_SUBMISS_DAY	DEMAND, INTERMITTENT_GEN_LIMIT_DAY,2	Modified
P5MIN	P5MIN_INTERSENSITIVITIES	P5MIN_SENSITIVITIES	P5MIN_INTERCONNECTORSEN,1	New

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Participant interfaces changes

Package Name	MMS Data Model table	File ID	CSV report type	Change
	P5MIN_PRICESENSITIVITIES	P5MIN_SENSITIVITIES	P5MIN_PRICESENSITIVITIES,1	New
	P5MIN_SCENARIODEMAND	P5MIN_SCENARIODEMANDTRK	P5MIN_SCENARIODEMAND,1	New
	P5MIN_SCENARIODEMANDTRK	P5MIN_SCENARIODEMANDTRK	P5MIN_SCENARIODEMANDTRK,1	New
MTPASA	MTPASA_DUIDAVAILABILITY	MTPASADUIDAVAILABILITY	MTPASA, DUIDAVAILABILITY,1	New
	MTPASA_REGIONRESULT	MTPASA	MTPASA, REGIONRESULT,2	Modified
	MTPASA_REGIONAVAILABILITY	MTPASAREGIONAVAILABILITY	MTPASA, REGIONAVAILABILITY,3	Modified
PDPASA	PDPASA_INTERCONNECTIONS OLN	PDPASA	PDPASA,INTERCONNECTIONS OLN,1	New
	PDPASA_CONSTRAINTSOLUTION	PDPASA	PDPASA,CONSTRAINTSOLUTION,1	New
STPASA_SOLUTION	STPASA_INTERCONNECTIONS OLN	STPASA	STPASA,INTERCONNECTIONS OLN,3	Modified
	STPASA_CONSTRAINTSOLUTION	STPASA	STPASA,CONSTRAINTSOLUTION,3	Modified

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5.8 File interface changes

Package ID	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
DEMAND_FORECASTS	ACTUAL_OPERATIONAL_DEMAND_UPDATE	Retrospective changes made to the actual operational demand data record (for example: due to SCADA data quality)	*_ACTUAL_OPERATIONAL_DEMAND_UPDATE_*.CSV	Ad hoc	Modified	No
P5MIN	P5MIN_SENSITIVITIES	Price sensitivities for 5MinPD solution	*_P5MIN_INTERCONNECTORSENSE_*.CSV	every 5 minutes	New	No
	P5MIN_SENSITIVITIES	Price sensitivities for 5MinPD solution	*_P5MIN_PRICESENSITIVITIES_*.CSV	every 5 minutes	New	No
	P5MIN_SCENARIODEMANDTRK	Tracks the 5Min scenario offset updates across time	*_P5MIN_SCENARIODEMAND_*.CSV	on P5MIN update	New	No
	P5MIN_SCENARIODEMANDTRK	Tracks the 5Min scenario offset updates across time	*_P5MIN_SCENARIODEMANDTRK_*.CSV	on P5MIN update	New	No
MTPASA	MTPASA	Results from a published Medium Term PASA Run and region-aggregate offered PASA	*_MTPASA_*.CSV	Updated every 3-hours	Modified	No

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Discontinued reports

		Availability of scheduled generators				
PDPASA	PDPASA	Results from a published Medium Term PASA Run and region-aggregate offered PASA Availability of scheduled generators	*_PDPASA_*.CSV	Updated half-hourly	Modified	No
STPASA_SOLUTION	STPASA	Results from a published Short Term PASA Run	*_STPASA_*.CSV	Updated every 2 hours	Modified	No

5.9 Discontinued reports

Participants must ensure all dependencies on these tables are removed prior to the deployment of this Release otherwise participant processes may be impacted.

No discontinued reports for non-Data Model tables

6 Non-functional changes

6.1 Documentation

The following documentation is updated in the Releases for Data Model version v5.00.

Document	Pre-production	Production
MMS Data Model Upgrade Report	Participant File Server > \Releases\MMS Data Model\PreProduction\v5.0	Participant File Server > \Releases\MMS Data Model\Production\v5.0 <u>Market Data NEMweb:</u> https://nemweb.com.au/Reports/Current/MMSDataModelReport/Electricity/MMS%20Data%20Model%20Report.htm <u>Wholesale IT systems software:</u> https://aemo.com.au/energy-systems/market-it-systems/electricity-system-guides/wholesale-it-systems-software <u>Market Data NEMweb:</u> https://nemweb.com.au/Reports/Current/MMSDataModelReport/Electricity/MMS%20Data%20Model%20Report.htm <u>Wholesale IT systems software:</u> https://aemo.com.au/energy-systems/market-it-systems/electricity-system-guides/wholesale-it-systems-software
MMS Data Model Report		
MMS Data Model Package Summary		
MMS Data Model Table to File to Report Relationships workbook		

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Document	Pre-production	Production
Data Interchange Online Help	https://visualisations.aemo.com.au/aemo/di-help/Content/Index.htm?tocpath=___1 https://visualisations.aemo.com.au/aemo/di-help/Content/Index.htm?tocpath=___1	

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7 Implementation

7.1 Transition

For transition details, see <https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement/readiness-workstream/key-readiness-documents>

7.2 Implications

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

- Review and assess the impact on their Data Interchange instances with respect to the changes implemented as part of this Release.
- Schedule staff and resources to upgrade their Data Interchange installations to the latest Data Model version to realise benefits from the new functionality, operate against newly supported platforms, and to maintain ongoing support from AEMO.

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.

7.3 Risks

- Risks are tracked in the **SMS Program Consultative Forum (PCF)**.

7.4 What happens if I do not upgrade?

If participants' systems are compliant with AEMO's supported configuration defined in the [Data Interchange 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:

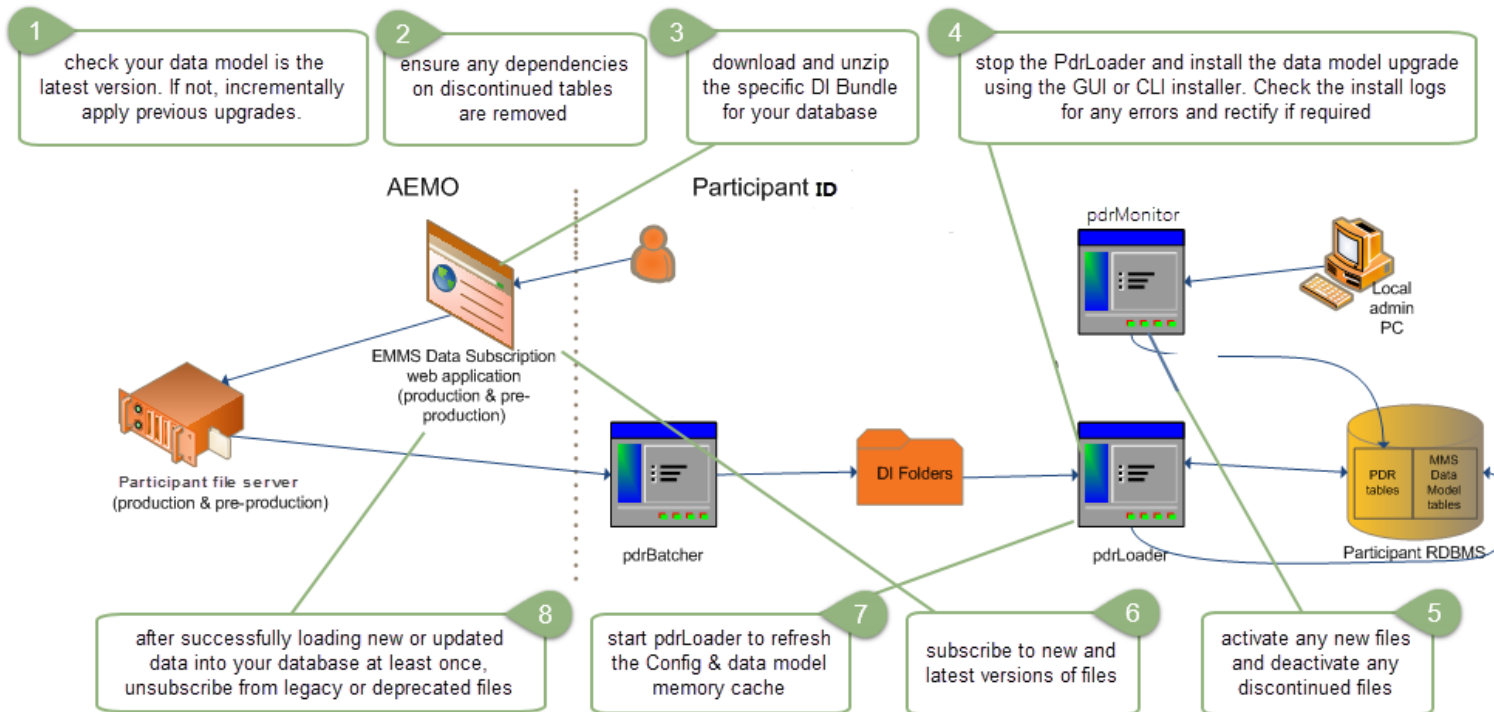
- New data is not received to the new fields or tables because the Data Model elements are not created on the participant's database.
- Participants not subscribed to the latest versions of files using the Data Subscriptions web application do not receive the new data.

What happens if I do not upgrade?

- Content in legacy files may change after deployment of this Release.

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.

7.5 Upgrading your data model



8 References

5MS Program Consultative Forum (PCF): Supports the progression of 5MS, each participant's implementation, and provides an opportunity for participants to contribute to planning activities, risk and issue management, and documentation reviews.

5MS Staging Environment: Provides details about the staging environment and how to access it: <https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Systems-Workstream/Staging-Environment>
~~<https://aemo.com.au/Electricity/National-Electricity-Market-NEM/Five-Minute-Settlement/Systems-Workstream/Staging-Environment>~~

5MS Technical Documents: <https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement/systems-workstream/systems-technical-documents>

~~**Data Interchange Framework and Glossary:** <https://aemo.com.au/initiatives/major-programs/nem-five-minute-settlement-program-and-global-settlement/systems-workstream/systems-technical-documents>~~

~~**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.~~

~~**Data Interchange Online Help**~~**Data Interchange Online Help:** Assists participants to understand AEMO's Data Interchange software, describing how to set up a standard Data Interchange environment to replicate data between AEMO's wholesale energy market systems and participants' local DBMS conforming to the electricity or gas Data Models:

Releases folder\MMS Data Model: folder to obtain Data Model: scripts for supported versions, release notes, reports, installation notes, and technical specifications.

Technical Specifications: <https://aemo.com.au/energy-systems/market-it-systems/it-change-and-release-management>
~~<https://aemo.com.au/energy-systems/market-it-systems/it-change-and-release-management>~~

9 Rules Terms

You can find the following terms defined in the National Electricity Rules (NER):

<https://www.aemc.gov.au/regulation/energy-rules/national-electricity-rules/current>
<https://www.aemc.gov.au/regulation/energy-rules/national-electricity-rules/current>

Term
AEMO
AEMO Markets Portal
Ancillary Services
Bid File
Cancelled Units
Constraint
Cumulative Price Threshold
Dispatch Interval
Energy
Energy Constraints
Generating Unit
Interconnector
Intermittent
Inter-regional

Term
Intra-regional
Loading Level
Mandatory Restriction
Market Ancillary Services
Market Participants
Medium Term PASA
NEM
Network
Network Constraints
NMI
Offer File
Offer Period
Offers
Offered Units
PASA

Term
Pre-dispatch
Rebid
Region
Registered Participant
Reserve
Semi-scheduled Generating Units
Settlements Residue
Short-term
Spot Price
Trading Day
Trading Interval
Units
Unit Category
Violation



10 Glossary

Term	Explanation
30-minute Period	New term replacing Trading Interval, when the period remains as 30-minutes
30-Minute Tables	<p>30-min Data Model tables</p> <ul style="list-style-type: none"> - BIDPEROFFER - MNSP_PEROFFER - MNSP_FILETRK - MNSP_OFFERTRK <p>These tables are discontinued from the Participant Data Model v5.00</p>
30-Minute Tables reused for 5MS	<p>BIDDAYOFFER</p> <p>MNSP_DAYOFFER</p> <p>BIDOFFERFILETRK</p>
5-Minute Tables	<p>5-min Data Model tables:</p> <ul style="list-style-type: none"> - BIDOFFERPERIOD - MNSP_BIDOFFERPERIOD <p>These tables are only populated with 5-minute Bid submissions. They do not contain replicated 30-minute Bids</p>
5MS	Five-Minute Settlement Program
5MS Bidding Transition	<p>1 April 2021 – 1 October 2021</p> <p>130 September 2021</p> <p>During Bidding Transition, AEMO uses the latest of either 5- or 30-minute Bids</p>
5MS Rules	National Electricity Amendment (Five Minute Settlement) Rule 2017 No. 15 The 5MS rules changes in the NER
5MS Rules Commencement (Post- 5MS Bidding Transition)	<p>1 October 2021</p> <p>Post 5MS Rules Go-Live Commencement, AEMO uses the latest of either 5- or 30-minute Bids migrated to the 5-minute tables where they remain current</p>
AEST	Australian Eastern Standard Time
Bid	Bid or Offer

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Term	Explanation
Bid Sheet	The grid in the web bidding interfaces where participants enter their Bid data
Bidding Granularity	5- or 30-minute bidding
5MS Bidding Transition Go-Live	1 April 2021
Data Model	The definition of the interface to participants of data published by AEMO for gas or electricity. A database conforming to the Data Model can contain a local copy of all current participant-specific data recorded in the main database. The Data Model includes database tables, indexes, and primary keys
DUID	Dispatch unit ID or Interconnector ID
EDM	Electricity Data Model
EMMS	Electricity Market Management System; software, hardware, network and related processes to implement the wholesale energy market
FCAS	Frequency Control Ancillary Services
FTP	File transfer protocol
GS	Global Settlement
Interfaces - 5MS	<p>API:</p> <ul style="list-style-type: none"> - 5-minute JSON schema file to the API e-Hub <p>FTP:</p> <ul style="list-style-type: none"> - 5-minute JSON schema file to the Participant File Server <p>Web Interface – 5MS:</p> <ul style="list-style-type: none"> - Manually in the interface - Import (or export) a csv file - Upload a JSON file
Interfaces - Legacy	<p>FTP</p> <ul style="list-style-type: none"> - txt or zip file to the Participant File Server <p>Web Interface - Legacy:</p> <ul style="list-style-type: none"> - Manually in the interface - Copy/paste into the web Bid Sheet - Upload a plain text or zip file

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Term	Explanation
NER	National Electricity Rules
Participant ID	Registered participant identifier; A company can have more than one Participant ID
PCF	5MS Program Consultative Forum
PID	Participant ID
Prior to Transition	Before 5MS Bidding Transition Prior to the transition period, AEMO uses the latest 30-minute Bids
Project	Data Model v5.00
Release	EMMS Technical Specification – 5MS - Data Model v5.00
RWG	Readiness working group
SWG	Systems Working Group
Web Interface – 5MS	The 5-minute web bidding interface after 5MS Bidding Transition Go-Live
Web Interface - Legacy	The 30-minute web bidding interface before 5MS Rule Commencement s Go-Live

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11 Appendix 3 - Version History

11.1 V3.00

1. For the duration of 5MS Bidding Transition, the Data Model design is extended to include in the:
 - a. Next Day Offer Energy file: the 5-minute BIDOFFERPERIOD, 5-minute MNSP_BIDOFFERPERIOD, 30-minute BIDPEROFFER, and 30-minute MNSP_PEROFFER reports.
The 30-minute reports remain in the file during 5MS Bidding Transition only.
 - b. Next Day Offer FCAS file: the 5-minute BIDOFFERPERIOD and 30-minute BIDPEROFFER reports.
The 30-minute report remains in the file during 5MS Bidding Transition only.

From 5MS Rules Commencement, the 5MS Bidding Transition Bid/Offer availabilities may change for each 5-minute Interval making it impossible to represent Bid/Offers on a 30-minute period basis.

The Next Day Offer Legacy reports maintain the 30-minute data so participants can migrate from the Legacy to the Current files once they have upgraded their Data Model to version 5.0.
2. Auto-subscription of File ID BIDOFFERFILETRK changes to Auto-subscription = yes.
3. BIDOFFERFILETRK table comment changes to: Shows an audit trail of all files submitted containing an FCAS Bid, including corrupt bids and rebids.
4. Clarity about tables replacing discontinued tables.
5. The following tables are still current and no longer discontinued as previously advised:
 - a. BIDDAYOFFER_D
 - b. BIDPEROFFER_D
6. The following non-Data Model files are discontinued from the monthly DVD:
 - c. DVD_BIDDAYOFFER_D
 - d. DVD_BIDPEROFFER_D

7. Fixed comment for P5Min intersensitivities to: Sets out the sensitivity flows for each interconnector for 5MinPD solution.
8. Added a link to the FAQ from the October MSUG meeting.
9. Completed File interface changes for non-5MS files.
10. Data Model v5.00 no longer supports Microsoft SQL server 2012 and Oracle 18c. For supported versions.

~~11.111.2~~ **V2.00**

- Removal of Mandatory Restrictions (MR_CAPACITY) from the ~~BIDSBID~~.BIDOFFERPERIOD and ~~BIDSBID~~.MNSP_BIDOFFERPERIOD Data Model tables in line with AEMC consultation ERC0289, effective 17 September 2020.
- Addition of 5-Minute Pre-dispatch (P5MIN) tables to reflect the addition of 5-minute Pre-dispatch price sensitivity.
- Added a link to the Data Interchange Online Help in References:
~~<https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/data-nem/nemweb-help>~~
~~<https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/data-nem/nemweb-help>~~

~~11.211.3~~ **V1.02**

- Adds a link to the Legacy Files for more information. See File interface changesFile interface changes.
- Clarifies some details for the MTPASA_REGIONRESULT table:
 - Adds details for the abbreviation OPGEN in the MTPASA_REGIONRESULT table.

Changes the Available Generation to Available Capacity. For more information, see

- Modified table: MTPASA_REGIONRESULT.

~~11.311.4~~ **V1.01**

This version adds the following updates:

- Includes tentative dates for the pre-production refresh. For more information, see Pre-production refresh.
- Includes the details for the Market User Group (MSUG) meeting and the pre-production refresh dates. Data model updates

Package	Table	Change	Reason
SETTLEMENT_DATA	SETCPDATA	Changes comment for PERIODID column from Market trading interval number to Settlements Trading Interval	Clarity
	SETMARKETFEEES		
	SETIRAUCSURPLUS		
	SETITNSPSURPLUS		
	SETIRPARTSURPLUS		
	SETCPDATA	Changes comment in the DME column to Sum of ME- for all NMIs at this Market Customer FRMP and TNI in the Settlements Trading Interval.	Clarity
	SETLUNLOADRECOVERY	Removed from the Modified data: Tables with PeriodID change section as these tables are now discontinued.	Clarity
	SETLUNLOADPAYMENT		
	SETLUNLOADRECOVERY		

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11.4.11.5 V1.00

This version adds the following updates:

- A new chapter detailing updates to the non-5MS related Data Model tables. For more information, see Electricity Data Model v5.00 – Non-5MS Updates.
- Includes the details for the Market User Group (MSUG) meeting and the pre-production refresh dates. For more information, see Milestones.
- Minor update to SETTLEMENT_DATA tables with PERIODID column in the comment field. Changes from Market trading interval number to Settlements Trading Interval. For more information, see Modified tables.

11.511.6 V0.08

This version includes the following updates:

- Replaces 1 July 2021 with the commencement of 5MS rule change date. For more details on the new dates, see [Five Minute Settlement and Global Settlement page on the AEMO website](#).~~Five Minute Settlement and Global Settlement page on the AEMO website.~~
- Data Model table changes:

Package	Table	Change	Reason
SETTLEMENT_DATA	SETIRAUCSURPLUS	Updates Data Type for the PERIODID column from NUMBER(2,0) to NUMBER(3,0).	Correction
	SETIRNSPSURPLUS		
	SETIRPARTSURPLUS		

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- For more details, see the Modified tables section.

11.611.7 V0.07

Updates based on participant feedback.

11.711.8 V0.06

Initial creation. Includes updates to the BILLING_RUN package as below:

Package	Table	Change	Reason
BILLING_RUN	BILLRESERVETRADERPAYMENT	PAYMENT_ID column included PAYMENT_TYPE_ID column removed.	Correction
	BILLRESERVETRADERRECOVERY	PAYMENT_ID column included. PAYMENT_AMOUNT column included. PAYMENT_TYPE_ID column removed.	

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