EMMS TECHNICAL SPECIFICATION REVISED - DECEMBER 2017

AEMO RELEASE SCHEDULE SERIES: EMMS10112017

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Data Model v4.27 and all projects released

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

IMPORTANT NOTICE

Purpose & audience

This document describes the technical changes required to participant's systems for the EMMS October and November Releases 2017. (Release). 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 Gas or 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.
- You can find resources mentioned in this guide on AEMO's website.
- Text in this format indicates a reference to a document on AEMO's website.
- The references listed throughout this document are primary resources and take precedence over this document.
- This document is written in plain language for easy reading. Where there is a discrepancy between the Rules and information or a term in this document, the Rules take precedence.
- Glossary Terms are capitalised and have the meanings listed against them, see Glossary on page 73.
- *Italicised terms* are defined in the Rules. Any rules terms not in this format still have the same meaning.

AEMO reference numbers

Included in each project heading is a Quality Centre Identifier (QCID) that provides useful tracking information. There may be none, one, or more QCIDs relevant to each project heading.

References to change notices are CN followed by the change notice number.

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Distribution

Available to the public.

Document Identification

Version: 4.00

Prepared by: AEMO Market Systems

Last update:Friday, 17 November 2017

Version History

4.00 Initial version.

Documents made obsolete

The release of this document changes only the version of EMMS Technical Specification Revised - December 2017.

Further Information

For further information, please visit AEMO's website www.aemo.com.au or contact:

AEMO Support Hub	Phone: 1300 AEMO 00 (1300 236 600) and follow the prompts.
	Email: supporthub@aemo.com.au

Feedback

Your feedback is important and helps us improve our services and products. To suggest improvements, please contact AEMO's Support Hub.

CONTENTS

1 WHOLESALE MARKET SYSTEM PROJECTS

The EMMS October and November Releases 2017. (Releases) include changes related to participants' IT systems. This technical specification describes the projects planned by AEMO from a participant perspective. AEMO provides this information as a service targeting business analysts and IT staff in participant organisations.

This Release contains the following projects:

P630 – MTPASA Redevelopment (rescheduled)

For details about the rescheduling of this project, see the EMMS RELEASE SCHEDULE – OCTOBER—DECEMBER 2017 v4.00.

1.1.1 Overview

Recognising that the NEM is evolving, AEMO is redeveloping its Medium Term Projected Assessment of System Adequacy (MTPASA) methodology to make sure it is fit for purpose into the future. Specifically, AEMO is focusing on how MTPASA is used to report potential reliability standard breaches.

MTPASA incorporates two separate functions:

1. A high frequency three-hourly information service providing a regional breakdown of the supply situation over the two-year horizon, taking into account participant submissions on availability.
2. A weekly assessment of system reliability, including provision of information on demand, supply and network conditions.

The MTPASA redevelopment seeks to replace the current deterministic approach towards assessing reliability with a probabilistic approach. The probabilistic approach removes the need for Minimum Reserve Levels (MRLs). Each simulation analyses the electricity system

under a different set of demand and supply conditions, including variations in intermittent generation, and records the resulting amount of Unserved Energy (USE). The full set of USE from these individual simulations provides insight into the distribution of potential USE across the two-year horizon.

1.1.2 Functional changes

Reliability Standard Implementation Guidelines

The Reliability Standard Implementation Guidelines (RSIG) are updated as part of the RSIG consultation. For details, see http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Reliability-Standard-Implementation-Guidelines-Consultation.

MTPASA runs

AEMO has identified two distinct MTPASA run types to support the NER:

- The reliability run to assess the likelihood of reliability standard breaches.
- The loss of load probability run used to determine days most at risk of USE.

Website visualisations

The data visualisations, charts and formats, published on AEMO's website reflect the new MTPASA outputs. For examples, see Appendix A on page 74.

1.1.3 Unchanged

- The redeveloped MTPASA is still published in the data visualisations on AEMO's website.
- *Market Participants* provide the PASA availabilities and the weekly energy constraints for each scheduled generator.
- Changes to the way participants submit their availability are out of scope for this project.

1.1.4 Electricity Data Model

For this project, there are substantial changes to the MTPASA package. Participants not upgrading to Electricity Data Model 4.27 will not receive MTPASA reports to their DBMS.

The following tables are DISCONTINUED:

MTPASA_CASESOLUTION

MTPASA_REGIONSOLUTION

MTPASA_INTERCONNECTORSOLUTION

MTPASA_CONSTRAINTSOLUTION

MTPASA_RESERVELIMITSOLUTION

For Data Model details, see Package: MTPASA on page 22.

1.1.5 Rules and procedures

The following NEM Rule clauses (v89) relate to this project.

Clause	Name	Description (if relevant)
3.7.2	Medium Term PASA	Detailed requirements of MT PASA inputs, outputs and publishing requirements
4.8.4 (a)	Declaration of conditions - LRC	Definition of low reserve condition
3.9.3C	Reliability Standard	Definition of reliability standard in terms of unserved energy
3.9.3 (D)	Implementation of the reliability standard	Detailed information on the establishment of the reliability standard implementation guidelines (RSIG)
8.9	Rules consultation procedures	Detailed information on the rules consultation procedures
3.20.2	Reliability and emergency reserve trader	Information on the operation and activation of RERT
4.3.1	Responsibility of AEMO for power system security	Clauses (l)(m) specifically refer to the RSIG

Clause	Name	Description (if relevant)
4.2.7 (c)	Reliable operating state	Whether the *power system* meets the *reliability standard* having regard to the RSIG
4.8.9	Power to issue directions and Clause 4.8.9 instructions	

1.1.6 Related resources

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

Name	Detail
Final report for Operation MRLs – 2010 MRL Recalculation	This document becomes obsolete: http://www.aemo.com.au/-/media/Files/Electricity/NEM/Data/MMS/2016/Final-Report-for-Operational-MRLs---2010-MRL-Recalculation.pdf
Interconnector Limit Forecast for MT PASA	This document becomes obsolete: https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Dispatch-information/Policy-and-process-documentationThis document becomes obsolete: https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Dispatch-information/Policy-and-process-documentation
Medium Term PASA Process Description	Reflects the changes to the methodology due to the MTPASA redevelopment. http://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/Electricity_Consultations/2017/MTPASA/MT_PASA_Process_Description---Final-Version.pdf
Projected Assessment Of System Adequacy (PASA)	Links to MTPASA data: https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Data/Market-Management-System-MMS/Projected-Assessment-of-System-Adequacy
Reliability Standard Implementation Guidelines Consultation	Consultation details: http://www.aemo.com.au/Stakeholder-Consultation/Consultations/Reliability-Standard-Implementation-Guidelines-Consultation

Name	Detail
Reliability Standard Implementation Guidelines	Reflects the changes to MT PASA moving from a deterministic to a probabilistic process for assessing reliability: http://www.aemo.com.au/-/media/Files/Stakeholder_Consultation/Consultations/Electricity_Consultations/2017/MTPASA/Reliability-Standard-Implementation-Guidelines---MT-PASA-Final.pdf

P421 – Helios - Phase 3 ASEFS

1.1.7 Overview

This project aims to improve the accuracy of solar forecasts used in the market by utilising satellite data to predict cloud movement and providing 30-minute forecast updates.

Work in this Release for this project is Data Model preparation only. Participants will not see changes until the application release early 2018.

1.1.8 Electricity Data Model

In early 2018, AEMO will publish two new Electricity Data Model files from the ROOFTOP_PV_ACTUAL table:

- Satellite based actuals
- Measurement based actuals

For more details, see Package: DEMAND_FORECAST on page 51.

The primary key of the ROOFTOP_PV_ACTUAL table change to Interval_Datetime, Type, RegionId.

P1252 – NEM Settlements Shortfall Calculation

1.1.9 Overview

In the event of a payment default, AEMO have modified the NEM settlement shortfall calculation to do a company level mapping to the Participant ID, where the calculation is now based on the company's net amount for the billing week.

1.1.10 Functional changes

There are three new Shortfall reports generated according to the participant's category:

1. ShortFall Adjusted Recipient Created Tax Invoice
2. ShortFall Adjusted Final Statement
3. ShortFall Adjusted Tax Invoice

For details, see Shortfall report examples below.

Shortfall PDF Report

A new PDF adjustment statement is generated when a shortfall is authorised:

Title	Shortfall Adjusted Adjustment Note
Generation	Generated for affected participants only
Format	The format is the same as the Final Statement with a line item for the Shortfall Amount
Report ID	PDFADJSHORTFALL
Trigger	Authorisation of a Shortfall If Shortfall amount is 0 then do not trigger the PDF Shortfall Invoice

Shortfall report examples

These are examples only; the published version may differ slightly.

ShortFall Adjusted Recipient Created Tax Invoice

1

AEMO

ShortFall Adjusted Recipient Created Tax Invoice

Enquiries
1300 361 011

Reference:
MSATS CASEID:

Statement Date
25 Aug 2017

Due Date
10 Mar 2017

Adjusted Statement Total

Summary of NEM Transactions
for Week 6: 05 Feb 2017 - 11 Feb 2017

Description	$
Energy	
Ancillary Services	
Settlement Residue Auction	
Market Fees	
TNSP Residue	
Smelter-Reduction	
Security Deposits	
Reallocation	
Revision Adjustment	
Revision Interest	
Early Payment Interest	
Other	
GST	
Reassignment	
ShortFall Amount	
Adjusted Statement Total	

Payment Information:
Nominated Payment Date: **10 Mar 2017**
Nominated Payment Method: **Austraclear**

Market payments must be made using the Austraclear system. AEMO's Austraclear code is NEMM30. When the total above is a negative amount, the amount must be confirmed as a cleared payment to AEMO prior to 10:30am, Sydney Time, on the Due Date shown. When the total above is a positive amount, the amount will be available for receipting between 2pm and 4pm, Sydney Time, on the Due Date, subject to National Electricity Rules Clause 3.15.22.

Notes to the statement

Australian Energy Market Operator Ltd ABN: 94 072 010 327
Telephone: 03 9609 8000; Facsimile: 03 9609 8080

ShortFall Adjusted Final Statement

1

AEMO

ShortFall Adjusted Final Statement

Enquiries **1300 361 011**
Statement Date **25 Aug 2017**
Due Date **10 Mar 2017**
Adjusted Statement Total

Reference:
MSATS CASEID:

Summary of NEM Transactions
for Week 6: 05 Feb 2017 - 11 Feb 2017

Description	$
Energy	0.00
Ancillary Services	0.00
Settlement Residue Auction	0.00
Market Fees	0.00
TNSP Residue	0.00
Smelter-Reduction	0.00
Security Deposits	0.00
Reallocation	0.00
Revision Adjustment	0.00
Revision Interest	0.00
Early Payment Interest	0.00
Other	0.00
GST	0.00
Reassignment	0.00
ShortFall Amount	-3.42
Adjusted Statement Total	

Payment Information:
Nominated Payment Date: **10 Mar 2017**
Nominated Payment Method: **Austraclear**

Market payments must be made using the Austraclear system. AEMO's Austraclear code is NEMM30. When the total above is a negative amount, the amount must be confirmed as a cleared payment to AEMO prior to 10:30am, Sydney Time, on the Due Date shown. When the total above is a positive amount, the amount will be available for receipting between 2pm and 4pm, Sydney Time, on the Due Date, subject to National Electricity Rules Clause 3.15.22.

Notes to the statement

Australian Energy Market Operator Ltd ABN: 94 072 010 327
Telephone: 03 9609 8000; Facsimile: 03 9609 8080

ShortFall Adjusted Tax Invoice

2

AEMO

ShortFall Adjusted Tax Invoice

The maximum total payment in respect of this billing period is not sufficient to meet the aggregate of the net amounts payable by AEMO to each of the Market Participants to whom payments are to me made in relation to spot market transactions or reallocation transactions.In accordance with Clause 3.15.22(c) of the NER, the adjusted shortfall amounts payable for energy and reallocation have been reduced as shown above.AEMO will be pursuing recovery of defaulted amounts in accordance with Rule 3.15.21.

Detailed Transactions

Non Taxable Supplies made to AEMO

BAS Classification	Description	GST Exclusive ($)	Sub Total ($)
Input Taxed Supplies	Security Deposit Interest	0.00	
	Direction Interest	0.00	
	Revision Interest	0.00	
	Early Payment Interest	0.00	
	Manual Adjustment	0.00	
			0.00
GST-free Supplies	Smelter Reduction	0.00	
	Manual Adjustment	0.00	
			0.00
Total Sales and Income & Other Supplies made to AEMO			0.00

Supplies made by AEMO

BAS Classification	Description	GST Exclusive ($)	Sub Total ($)
Taxable Supplies	Energy		
	Ancillary Service		
	Compensation		
	Pool Fee - EUA		
	Pool Fee - NEM		
	Manual Adjustment	0.00	
GST Exclusive Amount			
GST Amount			
GST Inclusive Amount			
Acquisitions with no GST	Direction Interest	0.00	
	Revision Interest	0.00	
	Smelter Reduction	0.00	
	Settlement Residue Auction Fee	0.00	
	Manual Adjustment	0.00	
			0.00
Total Sales and Income & Other Supplies made by AEMO			

Transactions Not Subject to GST

	Description	GST Exclusive ($)	Sub Total ($)
	Reallocation		
	TNSP Residue	0.00	
	Settlement Residue Auction	0.00	
	Security Deposits	0.00	
	Compensation	0.00	
	Manual Adjustment	0.00	
	Revision Adjustment	0.00	
	Reassignment	0.00	
Statement Total for Week 6 of 2017			

Australian Energy Market Operator Ltd ABN: 94 072 010 327
Telephone: 03 9609 8000; Facsimile: 03 9609 8080

You can find the Shortfall Adjustment Statement in Settlements Direct. For more details, see Guide to Settlements Direct.

1.1.11 ABN format fix

Some settlement reports that include the participant's ABN number displayed a leading zero to the number. The reports now display the correct ABN format. Impacted reports were:

1. Shortfall Text Report and Tax Invoice generated at the time of a shortfall run
2. PDF Tax invoice generated at Final Billing Run time.
3. NEMreports: PARTICIPANTACCOUNT and DVDCV_PARTICIPANTACCOUNT.

1.1.12 Electricity Data Model

AEMO will publish the EFT Shortfall Calculation results to participants via the Electricity Data Model. The Billing Run and Billing Config packages contains new tables:

For details, see:

- Package: BILLING_RUN on page 43.

1.1.13 Data sharing

AEMO recommends participants check this change does not affect any existing Data Sharing arrangements. For help, see Guide to Data Sharing.

P1209 – Security Deposit Calculation

1.1.14 Overview

Due to APRA regulations, banks in Australia will not break a term deposit that matures in less than 31 days, limiting AEMO's ability to draw down on these funds in the event of participant failure, so AEMO will move away from the current practice of depositing funds in term deposits.

Current practice involves placing each participant security deposit in a separate bank term deposit with its own interest rate. This project supports process changes required to adopt a more flexible approach to Prudentials related security deposits in the case of participant failure.

1.1.15 Functional changes

At the completion of this project, AEMO will keep all participant security deposits in the same term deposit account. The interest rate of this account will change over time as the bank reacts to changes in the cash rate set by the Reserve Bank of Australia. This process ensures security deposits are always available to offset potential settlement shortfalls.

1.1.16 Electricity Data Model

The new process requires system changes to the Electricity Billing Run and Billing Config packages. For details, see: Electricity Data Model 4.27 on page 22.

1.1.17 Gas Data Model

The new process also requires system changes to the Gas Supply Hub package. For details, see: GAS_SUPPLY_HUB on page 64.

P1235 – Dynamic LOR Stage 2 for SA

1.1.18 Overview

To enhance reporting of LOR conditions to the market, this project implements logic to automate the calculation of LOR trigger levels for DSPASA, PDPASA, and STPASA in South Australia.

1.1.19 Functional changes

Participants will see improvements to the reporting of LOR conditions.

1.1.20 Electricity Data Model

There is no impact to the Data Model for this project.

P1242 – Automation of Market Suspension Pricing

1.1.21 Overview

This project involves automating the publication of market suspension schedules and automating the application of market suspensions.

1.1.22 Functional changes

Market Suspension Prices report

The Market Suspension Prices report is a calculated daily price profile, generated every Sunday at 3:00 am. Participants can subscribe to this file in the Data Subscription interface and replicate it to their DBMS using the Data Interchange software. It is also publicly available on NEMWeb: http://www.nemweb.com.au/Reports/Current/.

If the prices in the date range are not FIRM (for example, unresolved OCD), AEMO may delay publishing the report. We will publish it once the prices are FIRM.

Market Suspension Administration

Under the Force Majeure package, the current Market Suspension tables are discontinued (MarketSuspension and MarketSusRegion) and replaced with two new tables:

- Market_Suspend_Region_Sum (tracks Regions within a suspension).
- Market_Suspend_Regime_Sum (tracks Pricing Regime applied within a suspension).

1.1.23 Electricity Data Model

This project contains new, updated, and discontinued tables to the Electricity Data Model FORCE_MAJEURE package (for details, see Package: FORCE_MAJEURE on page 58) and the DISPATCH package (for details, see Package: DISPATCH on page 54).

7-day Pre-dispatch

1.1.24 Overview

To improve the ability to assess short-term gas supply for gas-fired generators, this project implements a 7-day forecast of NEM dispatch.

1.1.25 Functional changes

At production release time, AEMO publishes a new csv report on the Gas Supply Guarantee web page with the Aggregate fuel forecast (GJ) for NEM gas powered generators for each of the next 7 days. The forecast utilises an assumed heat rate conversion for each station.

1.1.26 Electricity Data Model

This project does not affect the Data Model.

2 DATA INTERCHANGE

This Release contains a new version of the Electricity Data Model, 4.27 and a new version of the Gas Data Model 1.4. This section describes the affected packages, tables, files, reports, and interfaces.

AEMO will update the Data Interchange software in a separate release later this year. There is no dependency between this Data Model release and the update of the Data Interchange software v7.4.

2.1 Definitions

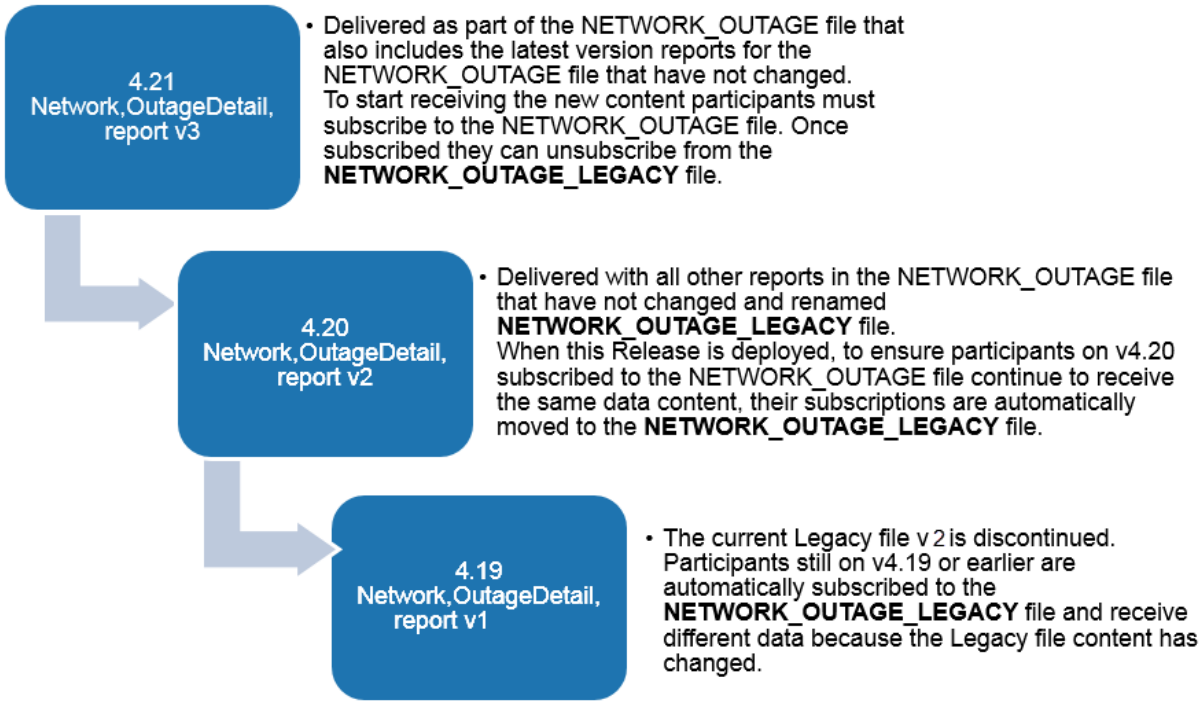
Table 1 Electricity Data Model terms used in this technical specification

Definition	Electricity	Gas	Description
Discontinued Report	4.25 or earlier	1.2 or earlier	When a Legacy version of a file replaces an existing Legacy file, some versions of the included reports may change. The replaced report versions are referred to as discontinued. Participants on Discontinued versions may be impacted if a report is discontinued in a Legacy file they are receiving.
Discontinued version	4.25	1.2	Refers to the tables, files, and reports deployed in the EMMS Year-end Release 2016.
File	n/a	n/a	Logically groups one or more reports delivered as a physical file, for example BILLING. Participants subscribe to files using the Data Interchange->Data Subscription menu in the Markets Portal.
Latest version	4.27	1.4	Refers to the tables, files, and reports deployed in this Release.
Legacy file	4.26 or earlier	1.3	Currently supported but no longer updated. If a report is changed in a release, the previous version of the report and the latest version of other reports in the file are delivered from the Legacy file. For an example, see Figure 1 on page 14. AEMO automatically moves participants' subscriptions to the Legacy file. This ensures participants on Data Model versions: electricity 4.26 or gas 1.3, subscribed to files that change, will continue to receive the same data. Once upgraded, and the new data is received, you can unsubscribe from the Legacy files. Participants still on Electricity Data Model 4.25 or earlier remain on any subscribed Legacy files but may receive different content if the Legacy file content has changed.

Definition	Electricity	Gas	Description
Previous version	4.26	1.3	Refers to the tables, files, and reports deployed in the previous Data Model release.
Report	n/a	n/a	A data report that loads into a data model table. Identified by its type, subtype, and version. For example: BILLING,BILLINGASPAYMENTS,2

Figure 1 Legacy file example

The design of the data model supports the latest and previous version of a file. AEMO refers to the previous version as the Legacy version, for example NETWORK_OUTAGE_LEGACY. The example below describes what happens to an existing Legacy file in v4.19 when AEMO releases a new Data Model version, 4.21.



2.2 Transition

- To receive the new data in the modified packages and tables, participants must upgrade to Electricity v4.27 or gas v1.4.
- Versions of tables in the Electricity Data Model 4.26 or Gas Data Model 1.3 are moved to Legacy versions.
- Some Data Model report versions are moved to Legacy versions and others are discontinued. Participants must ensure they remove all dependencies on discontinued tables and reports prior to the deployment of this Release; otherwise, participant

processes may be impacted. Participants on Data Models versions prior to 4.26 or 1.3 may be impacted if a report is discontinued in a Legacy file they are receiving.

- AEMO automatically moves participants' subscriptions to the Legacy file. This ensures participants on Electricity Data Model 4.26 or Gas Data Model 1.3 subscribed to files that change, continue to receive the same data.
- Participants still on Electricity Data Model 4.25 and earlier or Gas Data Model 1.2 and earlier remain on any subscribed Legacy files but may receive different content if the Legacy file content changes.
- Once subscribed, and the new data is received, you can unsubscribe from the Legacy files.
- AEMO encourages participants using data replication products critical to their business to make use of the four-week pre-production period to assess and test any impact to their market systems and business processes.

2.3 Data Interchange software and guides

You can find Data Interchange software and associated documents in the following locations:

- Releases directory on the participant file share: FTP to 146.178.211.25; Data Interchange, pdrBatcher, pdrLoader, or Replication Manager.
- Data Subscription web application in the Markets Portal:
  - Production: https://portal.prod.marketnet.net.au
  - Pre-production: https://portal.preprod.marketnet.net.au
- AEMO's website: NEM or Gas IT Systems > Wholesale IT systems software > Data Interchange.

For help upgrading or setting up a Data Interchange environment, see:

- Guide to Upgrading a Standard Data Interchange Environment
- Guide to Setting up a Standard Data Interchange Environment
- Concise Guide to Data Interchange
- Comprehensive Data Interchange Guide
- Guide to Troubleshooting Data Interchange

2.4 Data Model changes summary

2.4.1 Electricity Data Model 4.27

Package	Table name	Change	Details	PK
MTPASA Details on page 22	MTPASA_CASERESULT	New table	Holds one Record for entire solution	RUN_DATETIME + RUN_NO
	MTPASA_CONSTRAINTRESULT	New table	Constraint results for Binding or Violation Constraints	RUN_DATETIME + RUN_NO + RUNTYPE + DEMAND_POE_TYPE + DAY + CONSTRAINTID
	MTPASA_CONSTRAINTSUMMARY	New table	Constraint Summary results over aggregation periods	RUN_DATETIME + RUN_NO + RUNTYPE + DEMAND_POE_TYPE + DAY + CONSTRAINTID + AGGREGATION_PERIOD
	MTPASA_INTERCONNECTORRESULT	New table	Interconnector results for interval of max demand per day	RUN_DATETIME + RUN_NO + RUNTYPE + DEMAND_POE_TYPE + DAY + INTERCONNECTORID
	MTPASA_LOLPRESULT	New table	Results for Loss of Load Probability (LOLP) run per day	RUN_DATETIME + RUN_NO + RUNTYPE + DAY + REGIONID
	MTPASA_REGIONRESULT	New table	Region results for interval of max demand per day	RUN_DATETIME + RUN_NO + RUNTYPE + DEMAND_POE_TYPE + DAY + REGIONID
	MTPASA_REGIONSUMMARY	New table	Region Results summary over aggregation periods	RUN_DATETIME + RUN_NO + RUNTYPE + DEMAND_POE_TYPE + AGGREGATION_PERIOD + PERIOD_ENDING + REGIONID

Package	Table name	Change	Details	PK
	MTPASA_REGIONITERATION	New table	Region results for Unserved Energy (USE)	RUN_DATETIME + RUN_NO + RUNTYPE + DEMAND_POE_TYPE + AGGREGATION_PERIOD + PERIOD_ENDING + REGIONID + USE_ITERATION_ID
	MTPASA_REGIONAVAILABILITY	Modified table New fields	Extra detail on demand and capacity	PUBLISH_DATETIME + DAY + REGIONID
BILLING_CONFIG Details on page 39	SECDEPOSIT_PROVISION	New table	SECURITY DEPOSIT ID PARTICIPANT ID TRANSACTION DATE MATURITY_CONTRACTYEAR MATURITY_WEEKNO AMOUNT INTEREST_RATE INTEREST_CALC_TYPE INTEREST_ACCT_ID	SECURITY_DEPOSIT_ID + PARTICIPANTID
	SECDEPOSIT_INTEREST_RATE	New table	INTEREST_ACCT_ID_EFFECTIVEDATE VERSION_DATETIME INTEREST_RATE	INTEREST_ACCT_ID + EFFECTIVEDATE + VERSION_DATETIME

Package	Table name	Change	Details	PK
BILLING_RUN Details on page 43	BILLING_EFTSHORTFALL_AMOUNT	New table	CONTRACTYEAR WEEKNO BILLRUNNO PARTICIPANTID SHORTFALL_AMOUNT SHORTFALL SHORTFALL_COMPANY_ID COMPANY_SHORTFALL_AMOUNT PARTICIPANT_NET_ENERGY COMPANY_NET_ENERGY	CONTRACTYEAR + WEEKNO + BILLRUNNO + PARTICIPANTID
	BILLING_EFTSHORTFALL__DETAIL	New table	CONTRACTYEAR WEEKNO BILLRUNNO PARTICIPANTID TRANSACTION_TYPE AMOUNT	CONTRACTYEAR + WEEKNO + BILLRUNNO + PARTICIPANTID+TRANSACTION_TYPE
	BILLING_SECDEPOSIT_APPLICATION	New table	CONTRACTYEAR WEEKNO BILLRUNNO PARTICIPANTID APPLICATION_AMOUNT	CONTRACTYEAR + WEEKNO + BILLRUNNO + PARTICIPANTID

Package	Table name	Change	Details	PK
	BILLING_SECDEP_INTEREST_RATE	New table	CONTRACTYEAR WEEKNO BILLRUNNO INTEREST_ACCT_ID EFFECTIVEDATE INTEREST_RATE	CONTRACTYEAR + WEEKNO + BILLRUNNO + INTEREST_ACCT_ID + EFFECTIVEDATE
	BILLING_SECDEP_INTEREST_PAY	New table	CONTRACTYEAR WEEKNO BILLRUNNO SECURITY_DEPOSIT_ID PARTICIPANTID INTEREST_AMOUNT INTEREST_CALC_TYPE INTEREST_ACCT_ID INTEREST_RATE	CONTRACTYEAR + WEEKNO + BILLRUNNO + SECURITY_DEPOSIT_ID + PARTICIPANTID

Package	Table name	Change	Details	PK
DEMAND_FORECASTS Details on page 51	ROOFTOP_PV_ACTUAL	Modified table New fields	Type QI	INTERVAL_DATETIME + TYPE + REGIONID Changes from INTERVAL_DATETIME + REGIONID
DISPATCH Details on page 54	DISPATCH_INTERCONNECTION	New Table	SETTLEMENTDATE RUNNO INTERVENTION FROM_REGIONID TO_REGIONID DISPATCHINTERVAL IRLF MWFLOW METEREDMWFLOW FROM_REGION_MW_LOSSES TO_REGION_MW_LOSSES	SETTLEMENTDATE + RUNNO + INTERVENTION + FROM_REGIONID + TO_REGIONID
FORCE MAJEURE Details on page 58	MARKET_SUSPEND_REGION_SUM	New Table	SUSPENSION_ID REGIONID INITIAL_INTERVAL END_REGION_INTERVAL END_SUSPENSION_INTERVAL LASTCHANGED	SUSPENSION_ID + REGIONID
	MARKET_SUSPEND_REGIME_SUM	New Table	SUSPENSION_ID REGIONID START_INTERVAL END_INTERVAL PRICING_REGIME LASTCHANGED	SUSPENSION_ID + REGIONID + START_INTERVAL

Package	Table name	Change	Details	PK
	MARKET_SUSPEND_SCHEDULE_TRK	New Table	EFFECTIVEDATE SOURCE_START_DATE SOURCE_END_DATE COMMENTS AUTHORISEDDATE LASTCHANGED	EFFECTIVEDATE
	MARKET_SUSPEND_SCHEDULE	New Table	EFFECTIVEDATE DAY_TYPE REGIONID PERIODID ENERGY_RRP R6_RRP R60_RRP R5_RRP RREG_RRP L6_RRP L60_RRP L5_RRP LREG_RRP LAST_CHANGED	EFFECTIVEDATE + REGIONID + PERIODID

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Package	Table name	Change	Details	PK
GAS_SUPPLY_HUB Details on page 64	GSH_PRD_SECURITY_DEPOSITS	Modified	INTEREST_CALC_TYPE INTEREST_ACCT_ID	ORGANISATION_CODE + PARTICIPANT_CODE + PRUDENTIAL_DATETIME + PRUDENTIAL_RUN_ID + REALLOCATION_ID

Package	Table name	Change	Details	PK
	GSH_SECDEPOSIT_INTEREST_RATE	New Table	INTEREST_ACCT_ID EFFECTIVEDATE VERSION_DATETIME INTEREST_RATE	INTEREST_ACCT_ID + EFFECTIVEDATE + VERSION_DATETIME

2.5 Electricity Data Model 4.27

2.5.1 Package: MTPASA

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

The MTPASA package changes due to the P630 – MTPASA Redevelopment project.

New table: MTPASA_CASERESULT

Comment	MTPASA solution header table
Visibility	PUBLIC
Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME + RUN_NO

Columns: MTPASA_CASERESULT

Field Name	Data type	Null	Comment
RUN_DATETIME	DATE	No	Date processing of the run begins
RUN_NO	NUMBER(4)	No	Unique run ID
PLEXOS_VERSION	VARCHAR2(20)	Yes	Version of PLEXOS used
LASTCHANGED	DATE	Yes	Last date and time record changed

New Table: MTPASA_CONSTRAINTRESULT

Comment	Constraint results for Binding or Violating Constraints
Visibility	PUBLIC
Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME, RUN_NO, RUNTYPE, DEMAND_POE_TYPE, DAY, CONSTRAINTID

Columns: MTPASA_CONSTRAINTRESULT

Field Name	Data type	Comment
RUN_DATETIME	DATE	Date processing of the run begins
RUN_NO	NUMBER(4)	Unique run ID
RUNTYPE	VARCHAR2(20)	Type of run. Always RELIABILITY

Field Name	Data type	Comment
DEMAND_POE_TYPE	VARCHAR2(20)	Demand POE type used. Value is POE10
DAY	DATE	Day this result is for
CONSTRAINTID	VARCHAR2(20)	The unique identifier for the constraint. Only binding or violating constraints are reported
EFFECTIVEDATE	DATE	The effective date of the constraint used
VERSIONNO	NUMBER(3,0)	The version of the constraint used
PERIODID	NUMBER(3,0)	Half hourly period reported, selected as period of maximum NEM scheduled demand (calculated as maximum of scheduled demands, averaged across iterations and reference years)
PROBABILITYOFBINDING	NUMBER(8,5)	Proportion of a constraint binding, across iterations and reference years
PROBABILITYOFVIOLATION	NUMBER(8,5)	Proportion of a constraint violating, across iterations and reference years
CONSTRAINTVIOLATION90	NUMBER(12,2)	The 90th percentile violation degree for this constraint, across iterations and reference years (MW)
CONSTRAINTVIOLATION50	NUMBER(12,2)	The 50th percentile violation degree for this constraint, across iterations and reference years (MW)
CONSTRAINTVIOLATION10	NUMBER(12,2)	The 10th percentile violation degree for this constraint, across iterations and reference years (MW)
LASTCHANGED	DATE	Last date and time record changed

New Table: MTPASA_CONSTRAINTSUMMARY

Comment	Constraint Summary results over aggregation periods
Visibility	PUBLIC

Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME, RUN_NO, RUNTYPE, DEMAND_POE_TYPE, DAY, CONSTRAINTID, AGGREGATION_PERIOD

Columns: MTPASA_CONSTRAINTSUMMARY

Field Name	Data type	Comment
RUN_DATETIME	DATE	Date processing of the run begins
RUN_NO	NUMBER(4)	Unique run ID
RUNTYPE	VARCHAR2(20)	Type of run. Always RELIABILITY
DEMAND_POE_TYPE	VARCHAR2(20)	Demand POE type used. Value is POE10
DAY	DATE	Day this result is for
CONSTRAINTID	VARCHAR2(20)	The unique identifier for the constraint. Only binding or violating constraints are reported
EFFECTIVEDATE	DATE	The effective date of the constraint used
VERSIONNO	NUMBER(3,0)	The version of the constraintID
AGGREGATION_PERIOD	VARCHAR2(20)	Period data is aggregated over. Values are PEAK, SHOULDER, OFFPEAK. PEAK = 14:00-19:59, SHOULDER = 07:00-13:59 and 20:00-21:59, OFFPEAK = 22:00-06:59
CONSTRAINTHOURSBINDING	NUMBER(12,2)	Constraint hours binding or violating for period, averaged across iterations and reference years
LASTCHANGED	DATE	Last date and time record changed

New Table: MTPASA_INTERCONNECTORRESULT

Comment	Interconnector results for interval of max demand per day
Visibility	PUBLIC
Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME, RUN_NO, RUNTYPE, DEMAND_POE_TYPE, DAY,INTERCONNECTORID

Columns MTPASA_INTERCONNECTORRESULT

Field Name	Data type	Comment
RUN_DATETIME	DATE	Date processing of the run begins
RUN_NO	NUMBER(4)	Unique run ID
RUNTYPE	VARCHAR2(20)	Type of run. Always RELIABILITY
DEMAND_POE_TYPE	VARCHAR2(20)	Demand POE type used. Value is POE10
DAY	DATE	Day this result is for
INTERCONNECTORID	VARCHAR2(20)	The unique identifier for the interconnector
PERIODID	NUMBER(3,0)	Half hourly period reported, selected as period of maximum NEM scheduled demand (calculated as maximum of scheduled demands, averaged across iterations and reference years)
FLOW90	NUMBER(12,2)	The 90th percentile for flows, across iterations and reference years. Positive values indicate exporting, negative values indicate importing (MW)

Field Name	Data type	Comment
FLOW50	NUMBER(12,2)	The 50th percentile for flows, across iterations and reference years. Positive values indicate exporting, negative values indicate importing (MW)
FLOW10	NUMBER(12,2)	The 10th percentile for flows, across iterations and reference years. Positive values indicate exporting, negative values indicate importing (MW)
PROBABILITYOFBINDINGEXPORT	NUMBER(8,5)	Proportion of iterations and reference years with interconnector constrained when exporting
PROBABILITYOFBINDINGIMPORT	NUMBER(8,5)	Proportion of iterations and reference years with interconnector constrained when importing
CALCULATEDEXPORTLIMIT	NUMBER(12,2)	Calculated Interconnector limit of exporting energy on the basis of invoked constraints and static interconnector export limit, averaged across iterations and reference years
CALCULATEDIMPORTLIMIT	NUMBER(12,2)	Calculated Interconnector limit of importing energy on the basis of invoked constraints and static interconnector import limit, averaged across iterations and reference years
LASTCHANGED	DATE	Last date and time record changed

New Table: MTPASA_LOLPRESULT

Comment	Results for Loss of Load Probability (LOLP) run per day
Visibility	PUBLIC
Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME, RUN_NO, RUNTYPE, DAY, REGIONID

Columns: MTPASA_LOLPRESULT

Field Name	Data type	Comment
RUN_DATETIME	DATE	Date processing of the run begins
RUN_NO	NUMBER(4)	Unique run ID
RUNTYPE	VARCHAR2(20)	Type of run. Always LOLP
DAY	DATE	Day this result is for
REGIONID	VARCHAR2(20)	The unique region identifier
WORST_INTERVAL_PERIODID	NUMBER(3,0)	The half hourly interval period with the highest LOLP, or highest region demand if LOLP = 0 for all intervals (1..48)
WORST_INTERVAL_DEMAND	NUMBER(12,2)	The Abstract Operational Demand for the worst interval in this region (MW)
WORST_INTERVAL_INTGEN	NUMBER(12,2)	The half hourly aggregate intermittent generation for the worst interval in this region (MW)
WORST_INTERVAL_DSP	NUMBER(12,2)	The half hourly aggregate demand side participation for the worst interval period in this region (MW)
LOSSOFLOADPROBABILITY	NUMBER(8,5)	Loss of Load Probability for the worst interval in this region
LOSSOFLOADMAGNITUDE	VARCHAR2(20)	Loss of Load Magnitude for the worst interval in this region. Values are LOW, MEDIUM, HIGH
LASTCHANGED	DATE	Last date and time record changed

New Table: MTPASA_REGIONRESULT

Comment	Region results for interval of max demand per day
Visibility	PUBLIC
Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME, RUN_NO, RUNTYPE, DEMAND_POE_TYPE, DAY, REGIONID

Columns: MTPASA_REGIONRESULT

Field Name	Data type	Comment
RUN_DATETIME	DATE	Date processing of the run begins
RUN_NO	NUMBER(4)	Unique run ID
RUNTYPE	VARCHAR2(20)	Type of run. Always RELIABILITY
DEMAND_POE_TYPE	VARCHAR2(20)	Demand POE type used. Value is POE10
DAY	DATE	Day this result is for
REGIONID	VARCHAR2(20)	The unique region identifier
PERIODID	NUMBER(3,0)	Half hourly period reported, selected as period of maximum NEM scheduled demand (calculated as maximum of scheduled demands, averaged across iterations and reference years)
DEMAND	NUMBER(12,2)	Demand value from selected half hourly interval (MW)
AGGREGATEINSTALLEDCAPACITY	NUMBER(12,2)	The total installed capacity of all generation (MW)

Field Name	Data type	Comment
NUMBEROFITERATIONS	NUMBER(12,2)	Total number of iterations and reference years performed
USE_NUMBEROFITERATIONS	NUMBER(12,2)	Number of iterations and reference years with unserved energy>0
USE_MAX	NUMBER(12,2)	Maximum unserved energy, across iterations and reference years (MW)
USE_UPPERQUARTILE	NUMBER(12,2)	Upper quartile unserved energy, across iterations and reference years (MW)
USE_MEDIAN	NUMBER(12,2)	Median unserved energy, across iterations and reference years (MW)
USE_LOWERQUARTILE	NUMBER(12,2)	Lower quartile unserved energy, across iterations and reference years (MW)
USE_MIN	NUMBER(12,2)	Minimum unserved energy, across iterations and reference years (MW)
USE_AVERAGE	NUMBER(12,2)	Average unserved energy, across iterations and reference years (MW)
USE_EVENT_AVERAGE	NUMBER(12,2)	Average unserved energy event size, across iterations and reference years (MW)
TOTALSCHEDULEDGEN90	NUMBER(12,2)	The 90th percentile for scheduled generation across iterations and reference years (MW)
TOTALSCHEDULEDGEN50	NUMBER(12,2)	The 50th percentile for scheduled generation across iterations and reference years (MW)
TOTALSCHEDULEDGEN10	NUMBER(12,2)	The 10th percentile for scheduled generation across iterations and reference years (MW)
TOTALINTERMITTENTGEN90	NUMBER(12,2)	The 90th percentile for intermittent generation, across iterations and reference years (MW)
TOTALINTERMITTENTGEN50	NUMBER(12,2)	The 50th percentile for intermittent generation, across iterations and reference years (MW)
TOTALINTERMITTENTGEN10	NUMBER(12,2)	The 10th percentile for intermittent generation, across iterations and reference years (MW)
DEMANDSIDEPARTICIPATION90	NUMBER(12,2)	The 90th percentile for demand side participation, across iterations and reference years (MW)

Field Name	Data type	Comment
DEMANDSIDEPARTICIPATION50	NUMBER(12,2)	The 50th percentile for demand side participation, across iterations and reference years (MW)
DEMANDSIDEPARTICIPATION10	NUMBER(12,2)	The 10th percentile for demand side participation, across iterations and reference years (MW)
LASTCHANGED	DATE	Last date and time record changed

New Table: MTPASA_REGIONSUMMARY

Comment	Region Results summary over aggregation periods
Visibility	PUBLIC
Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME, RUN_NO, RUNTYPE, DEMAND_POE_TYPE, AGGREGATION_PERIOD, PERIOD_ENDING, REGIONID

Columns: MTPASA_REGIONSUMMARY

Field Name	Data type	Comment
RUN_DATETIME	DATE	Date processing of the run begins
RUN_NO	NUMBER(4)	Unique run ID
RUNTYPE	VARCHAR2(20)	Type of run. Always RELIABILITY
DEMAND_POE_TYPE	VARCHAR2(20)	Demand POE type used. Value are POE10, POE50

Field Name	Data type	Comment
AGGREGATION_PERIOD	VARCHAR2(20)	Period data is aggregated over. Values are YEAR, MONTH
PERIOD_ENDING	DATE	Datetime of day at end of period (i.e. last day of month or year reported)
REGIONID	VARCHAR2(20)	The unique region identifier
NATIVEDEMAND	NUMBER(12,2)	Native demand calculated from Operational As Generated trace supplied by Energy Forecasting
USE_PERCENTILE10	NUMBER(12,2)	Unserved energy period amount at the 10th percentile of iterations and reference years (MWh)
USE_PERCENTILE20	NUMBER(12,2)	Unserved energy period amount at the 20th percentile of iterations and reference years (MWh)
USE_PERCENTILE30	NUMBER(12,2)	Unserved energy period amount at the 30th percentile of iterations and reference years (MWh)
USE_PERCENTILE40	NUMBER(12,2)	Unserved energy period amount at the 40th percentile of iterations and reference years (MWh)
USE_PERCENTILE50	NUMBER(12,2)	Unserved energy period amount at the 50th percentile of iterations and reference years (MWh)
USE_PERCENTILE60	NUMBER(12,2)	Unserved energy period amount at the 60th percentile of iterations and reference years (MWh)
USE_PERCENTILE70	NUMBER(12,2)	Unserved energy period amount at the 70th percentile of iterations and reference years (MWh)
USE_PERCENTILE80	NUMBER(12,2)	Unserved energy period amount at the 80th percentile of iterations and reference years (MWh)
USE_PERCENTILE90	NUMBER(12,2)	Unserved energy period amount at the 90th percentile of iterations and reference years (MWh)
USE_PERCENTILE100	NUMBER(12,2)	Unserved energy period amount at the 100th percentile of iterations and reference years (MWh)
USE_AVERAGE	NUMBER(12,2)	Average period unserved energy across iterations and reference years (MWh)
NUMBEROFITERATIONS	NUMBER(12,2)	Total number of iterations and reference years performed

Field Name	Data type	Comment
USE_NUMBEROFITERATIONS	NUMBER(12,2)	Number of iterations and reference years showing unserved energy
USE_EVENT_MAX	NUMBER(12,2)	Maximum unserved energy event size across all half hourly intervals and iterations and reference years that have unserved energy>0 (MW)
USE_EVENT_UPPERQUARTILE	NUMBER(12,2)	Upper quartile unserved energy event size across all half hourly intervals and iterations and reference years that have unserved energy>0 (MW)
USE_EVENT_MEDIAN	NUMBER(12,2)	Median unserved energy event size across all half hourly intervals and iterations and reference years that have unserved energy>0 (MW)
USE_EVENT_LOWERQUARTILE	NUMBER(12,2)	Lower quartile unserved energy event size across all half hourly intervals and iterations and reference years that have unserved energy>0 (MW)
USE_EVENT_MIN	NUMBER(12,2)	Minimum unserved energy event size across all half hourly intervals and iterations and reference years that have unserved energy>0 (MW)
WEIGHT	NUMBER(12,2)	Fixed Values of 0.696 for 50 POE and 0.304 for 10 POE.
USE_WEIGHTED_AVG	NUMBER(12,2)	Weighted average USE per region = (USE_AVERAGE_POE10/NATIVE_DEMAND_POE_10*WEIGHT_POE_10 + USE_AVERAGE_POE50/NATIVE_DEMAND_POE_50*WEIGHT_POE_50)*100
LRC	NUMBER(12,2)	LRC Condition reported (Value=1) if USE_WEIGHTED_AVG >= 0.002% otherwise (Value=0)
LASTCHANGED	DATE	Last date and time record changed

New Table: MTPASA_REGIONITERATION

Comment	Region results for Unserved Energy (USE)
Visibility	PUBLIC
Trigger	MTPASA Solution published to the market
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME, RUN_NO, RUNTYPE, DEMAND_POE_TYPE, AGGREGATION_PERIOD, PERIOD_ENDING, REGIONID, USE_ITERATION_ID

Columns: MTPASA_REGIONITERATION

Field Name	Data type	Comment
RUN_DATETIME	DATE	Date processing of the run begins
RUN_NO	NUMBER(4)	Unique run ID
RUNTYPE	VARCHAR2(20)	Type of run. Always RELIABILITY
DEMAND_POE_TYPE	VARCHAR2(20)	Demand POE type used. Value is POE10 or POE50
AGGREGATION_PERIOD	VARCHAR2(20)	Period data is aggregated over. Values are YEAR
PERIOD_ENDING	DATE	Datetime of day at end of period (i.e. last day of year reported)
REGIONID	VARCHAR2(20)	The unique region identifier
USE_ITERATION_ID	NUMBER(5)	Iteration ID, only produced for iterations showing unserved energy>0
USE_ITERATION_EVENT_NUMBER	NUMBER(12,2)	Number of half hours showing unserved energy over year, for iteration

Field Name	Data type	Comment
USE_ITERATION_EVENT_AVERAGE	NUMBER(12,2)	Average unserved energy event size for iteration over year (MW)
LASTCHANGED	DATE	Last date and time record changed

Modified table: MTPASA_REGIONAVAILABILITY

Comment	Region Generation Availability and Demand
Visibility	PUBLIC
Trigger	Every 3 hours during market business hours
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	PUBLISH_DATETIME, DAY, REGIONID

Added columns: MTPASA_REGIONAVAILABILITY

Field Name	Data type	Comment
PUBLISH_DATETIME	DATE	Date Time the report was published
DAY	DATE	Date on which the aggregation applies
REGIONID	VARCHAR2(20)	NEM Region
PASAAVAILABILITY_SCHEDULED	NUMBER(12,0)	Aggregate of the offered PASA Availability for all Scheduled generators in this region
LATEST_OFFER_DATETIME	DATE	Date Time of the latest offer used in the aggregation for this region and date

Field Name	Data type	Comment
ENERGYUNCONSTRAINEDCAPACITY	NUMBER(12,0)	Region energy unconstrained MW capacity
ENERGYCONSTRAINEDCAPACITY	NUMBER(12,0)	Region energy constrained MW capacity
NONSCHEDULEDGENERATION	NUMBER(12,2)	Allowance made for non-scheduled generation in the demand forecast (MW)
DEMAND10	NUMBER(12,2)	10% probability demand (ex non-scheduled demand)
DEMAND50	NUMBER(12,2)	50% probability demand (ex non-scheduled demand)
ENERGYREQDEMAND10	NUMBER(12,2)	Total weekly operational as generated consumption (POE 10)
ENERGYREQDEMAND50	NUMBER(12,2)	Total weekly operational as generated consumption (POE 50)
LASTCHANGED	DATE	Last date and time record changed

Participant interface changes

Data Model table	File ID	CSV report type	Change
MTPASA_CASERESULT	MTPASA	MTPASA,CASERESULT,1	New
MTPASA_CONSTRAINTRESULT	MTPASA	MTPASA, CONSTRAINTRESULT,1	New
MTPASA_CONSTRAINTSUMMARY	MTPASA	MTPASA, CONSTRAINTSUMMARY,1	New
MTPASA_INTERCONNECTORRESULT	MTPASA	MTPASA, INTERCONNECTORRESULT,1	New
MTPASA_LOLPRESULT	MTPASA	MTPASA, LOLPRESULT,1	New
MTPASA_REGIONRESULT	MTPASA	MTPASA, REGIONRESULT,1	New
MTPASA_REGIONSUMMARY	MTPASA	MTPASA, REGIONSUMMARY,1	New
MTPASA_REGIONITERATION	MTPASA	MTPASA, REGIONITERATION,1	New
MTPASA_REGIONAVAILABILITY	MTPASAREGIONAVAILABILITY	MTPASA, REGIONAVAILABILITY,2	Modified

File interface changes

These subscriptions have not changed, only the file contents.

File ID	Description	Batcher file masks	Frequency	Change	Auto-subscription
MTPASA	MTPASA Solution	*_MTPASA_*.csv	Ad hoc (usually 1 per week)	Modified	Yes
MTPASA	MTPASA Region Availability	*_MTPASAREGIONAVAILABILITY_*.csv	3 hourly during market business hours	Modified	No

Discontinued reports

Participants must ensure they remove all dependencies on these CSV report types prior to the deployment of this Release. If a report is discontinued in a Legacy file you are receiving, you may be impacted.

MMS Data Model table	File ID	Delivered in file	CSV report type	Replaced by
MTPASA_CASESOLUTION	MTPASA	*_MTPASA_*.CSV	MTPASA, CASESOLUTION, 4	MTPASA_CASERESULT,1
MTPASA_CONSTRAINTSOLUTION	MTPASA	*_MTPASA_*.CSV	MTPASA, CONSTRAINTSOLUTION, 2	MTPASA_CONSTRAINTRESULT,1 MTPASA_CONSTRAINTSUMMARY,1
MTPASA_INTERCONNECTORSOLUTION	MTPASA	*_MTPASA_*.CSV	MTPASA, INTERCONNECTORSOLUTION, 2	MTPASA_INTERCONNECTORRESULT,1
MTPASA_REGIONSOLUTION	MTPASA	*_MTPASA_*.CSV	MTPASA, REGIONSOLUTION,6	MTPASA_REGIONRESULT,1 MTPASA_REGION SUMMARY,1
MTPASA_RESERVELIMITSOLUTION	MTPASA	*_MTPASA_*.CSV	MTPASA,RESERVELIMITSOLUTION,1	Data is now across region and LOLP result tables
MTPASA_RESERVELIMIT	MTPASA_RESERVELIMIT	*_MTPASA_RESERVELIMIT_*.CSV	RESERVE_DATA, MTPASA_RESERVELIMIT,1	n/a
MTPASA_RESERVELIMIT_REGION	MTPASA_RESERVELIMIT	*_MTPASA_RESERVELIMIT_*.CSV	RESERVE_DATA, MTPASA_RESERVELIMIT,1	n/a
MTPASA_RESERVELIMIT_SET	MTPASA_RESERVELIMIT	*_MTPASA_RESERVELIMIT_*.CSV	RESERVE_DATA, MTPASA_RESERVELIMIT,1	n/a

Discontinued historical tables

MMS Data Model table	Package	Comment
MTPASA_CASE_SET	HISTORICAL TABLES	Obsolete from the 2005 Year-end Release.
MTPASACONSTRAINTSOLUTION_D	HISTORICAL TABLES	Sets out MT PASA constraint solution results, where constraints are binding.
MTPASAINTERCONNECTORSOLUTION_D	HISTORICAL TABLES	Shows interconnector results for MT PASA, shown region by region. MTPASAREGIONSOLUTION_ D MTPASAREGIONSOLUTION_D shows region
MTPASAREGIONSOLUTION_D	HISTORICAL TABLES	Shows region results for MT PASA, showing predicted demand and any capacity limits.

2.5.2 Package: BILLING_CONFIG

Configuration data for the billing process

The Billing Config package changes for the P1209 – Security Deposit Calculation.

New table: SECDEPOSIT_PROVISION

Comment	The security deposit provision entry details
Visibility	Private
Trigger	Upon entering and authorising the security deposit provision and interest rate (Table Trigger)
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key	SECURITY_DEPOSIT_ID + PARTICIPANTID

Columns: SECDEPOSIT_PROVISION

Name	Data type	Null	Comment
SECURITY_DEPOSIT_ID	VARCHAR2(20)	No	The security deposit ID
PARTICIPANTID	VARCHAR2(20)	No	The Participant ID linked to the security deposit ID
TRANSACTION_DATE	DATETIME	Yes	The date the security deposit ID is entered and authorised by settlements
MATURITY_CONTRACTYEAR	NUMBER(4,0)	Yes	The contract year of the billing week when the security deposit is maturing
MATURITY_WEEKNO	NUMBER(3,0)	Yes	The week no of the billing week when the security deposit is maturing
AMOUNT	NUMBER(18,8)	Yes	The security deposit amount
INTEREST_RATE	NUMBER(18,8)	Yes	The interest rate assigned to the security deposit ID. Null if INTEREST_CALC_TYPE <> FIXED
INTEREST_CALC_TYPE	VARCHAR2(20)	Yes	FIXED OR DAILY
INTEREST_ACCT_ID	VARCHAR2(20)	Yes	The Interest Account ID for calculating the Interest Payment. This is NULL if the INTEREST_CALC_TYPE = FIXED

New table: SECDEPOSIT_INTEREST_RATE

Comment	The security deposit interest rate on a daily basis. This is the public table published when the business enter and authorise a new daily interest rate
Visibility	Public
Trigger	Upon entering and authorising the security deposit interest rate
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key	INTEREST_ACCT_ID + EFFECTIVEDATE + VERSION_DATETIME

Columns: SECDEPOSIT_INTEREST_RATE

Name	Data type	Null	Comment
INTEREST_ACCT_ID	VARCHAR2(20)	No	The interest account ID for calculating the interest payment
EFFECTIVEDATE	DATETIME	No	The effective date of the interest rate change
VERSION_DATETIME	DATETIME	No	Date Time this record was added
INTEREST_RATE	NUMBER(18,8)	Yes	The interest rate for the interest account ID as on the effective date.

Participant interface changes

Data Model table	File ID	CSV report type	Change
SECDEPOSIT_INTEREST_RATE	SECDEPOSIT_INTEREST_RATE	BILLING_CONFIG, SECDEPOSIT_INTEREST_RATE,1	New
SECDEPOSIT_PROVISION	SECDEPOSIT_PROVISION	BILLING_CONFIG, SECDEPOSIT_PROVISION,1	New

File interface changes

File ID	Description	Batcher file masks	Frequency	Change	Data Model	Auto-subscription
SECDEPOSIT_INTEREST_RATE	The security deposit interest rate on a daily basis. This is the public table published when the business enter and authorise a new daily interest rate	PUBLIC_ SECDEPOSIT_INTEREST_RATE_*.CSV	Database table trigger: On entering and authorising the security deposit interest rate.	New	Yes	No
SECDEPOSIT_PROVISION	The security deposit provision entry details	*_SECDEPOSIT_PROVISION_*.CSV	Database table trigger: On entering and authorising security deposit provision and interest rate.	New	Yes	No

Discontinued reports

None for the Billing Config package.

2.5.3 Package: BILLING_RUN

Results from a published Billing Run. The settlement data and billing run data are updated daily between 6am and 8am for AEMO's prudential processes. In a normal week, AEMO publishes one PRELIM, one FINAL and two REVISION runs in addition to the daily runs.

The Billing Run package changes due to the following projects:

- P1209 – Security Deposit Calculation
- P1252 – NEM Settlements Shortfall Calculation

New table: BILLING_EFTSHORTFALL_AMOUNT

Comment	The billing shortfall run amounts
Visibility	Private
Trigger	Authorisation of Billing shortfall Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports <#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key (in order)	CONTRACTYEAR + WEEKNO + BILLRUNNO + PARTICIPANTID

Columns: BILLING_EFTSHORTFALL_AMOUNT

Name	Data type	Null	Comment
CONTRACTYEAR	NUMBER(4,0)	No	The shortfall affected billing contract year
WEEKNO	NUMBER(3,0)	No	The shortfall affected billing week no
BILLRUNNO	NUMBER(3,0)	No	The shortfall affected billing week run no
PARTICIPANTID	VARCHAR2(20)	No	The participant affected by the shortfall calculation
SHORTFALL_AMOUNT	NUMBER(18,8)	Yes	The Participant shortfall amount
SHORTFALL	NUMBER(18,8)	Yes	The market shortfall amount
SHORTFALL_COMPANY_ID	VARCHAR2(20)	Yes	The Company ID associated with the Participant ID used in the shortfall calculation
COMPANY_SHORTFALL_AMOUNT	NUMBER(18,8)	Yes	The shortfall amount for the Company ID associated with the Participant ID used in the shortfall calculation
PARTICIPANT_NET_ENERGY	NUMBER(18,8)	Yes	The participant NET energy used in shortfall calculation
COMPANY_NET_ENERGY	NUMBER(18,8)	Yes	The NET energy for the Company ID associated with the Participant ID used in the shortfall calculation

New table: BILLING_EFTSHORTFALL_DETAIL

Comment	The Billing Shortfall Run Amount details
Visibility	Private
Trigger	Authorisation of Billing shortfall Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key (in order)	CONTRACTYEAR + WEEKNO + BILLRUNNO + PARTICIPANTID+TRANSACTION_TYPE

Columns: BILLING_EFTSHORTFALL_DETAIL

Name	Data type	Null	Comment
CONTRACTYEAR	NUMBER(4,0)	No	The shortfall affected billing contract year
WEEKNO	NUMBER(3,0)	No	The shortfall affected billing week no
BILLRUNNO	NUMBER(3,0)	No	The shortfall affected billing week run no
PARTICIPANTID	VARCHAR2(20)	No	The participant affected by the shortfall calculation
TRANSACTION_TYPE	VARCHAR2(40)	No	The transaction type details associated with the shortfall calculation
AMOUNT	NUMBER(18,8)	Yes	The amount for each transaction type

New table: BILLING_SECDEPOSIT_APPLICATION

Comment	The security deposit application details
Visibility	Private
Trigger	After posting a Billing Run (FINAL and REVISION)
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key	CONTRACTYEAR, WEEKNO, BILLRUNNO, PARTICIPANTID

Columns: BILLING_SECDEPOSIT_APPLICATION

Name	Data type	Null	Comment
CONTRACTYEAR	NUMBER(4,0)	No	The billing contract year where (security deposit application) SDA is applied
WEEKNO	NUMBER(3,0)	No	The billing week no. where the SDA is applied
BILLRUNNO	NUMBER(3,0)	No	The billing run no. where the SDA is applied
PARTICIPANTID	VARCHAR2(20)	No	The Participant ID lodging the SDA
APPLICATION_AMOUNT	NUMBER(18,8)	Yes	The SDA application amount

New table: BILLING_SECDEP_INTEREST_RATE

Comment	The DAILY interest rates used by billing when calculating the interest amount
Visibility	Public
Trigger	After posting a Billing Run (FINAL and REVISION)
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key	CONTRACTYEAR, WEEKNO, BILLRUNNO, INTEREST_ACCT_ID, EFFECTIVEDATE

Columns: BILLING_SECDEP_INTEREST_RATE

Name	Data type	Null	Comment
CONTRACTYEAR	NUMBER(4,0)	No	The billing contract year the SDA application is processed and interest calculated
WEEKNO	NUMBER(3,0)	No	The billing week no. the SDA application is processed and interest calculated
BILLRUNNO	NUMBER(3,0)	No	The billing run no. the SDA application is processed and interest calculated
INTEREST_ACCT_ID	VARCHAR2(20)	No	The interest account ID used by security deposit interest calculation
EFFECTIVEDATE	DATETIME	No	The effective date of the new interest change
INTEREST_RATE	INTEGER(18,8)	Yes	The interest rate to apply from the effective date

New table: BILLING_SECDEP_INTEREST_PAY

Comment	The interest amount for security deposit calculated by billing, based on whether it is a fixed/floating rate
Visibility	Private
Trigger	After posting a Billing Run (FINAL and REVISION)
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key	CONTRACTYEAR + WEEKNO + BILLRUNNO + SECURITY_DEPOSIT_ID + PARTICIPANTID

Columns: BILLING_SECDEP_INTEREST_PAY

Name	Data type	Null	Comment
CONTRACTYEAR	NUMBER(4,0)	No	The billing contract year the SDA application is processed and interest calculated
WEEKNO	NUMBER(3,0)	No	The billing week no. the SDA application is processed and interest calculated
BILLRUNNO	NUMBER(3,0)	No	The billing run no. the SDA application is processed and interest calculated
SECURITY_DEPOSIT_ID	VARCHAR2(20)	No	The security deposit ID for which billing has calculated the Interest amount
PARTICIPANTID	VARCHAR2(20)	No	The participant ID of the security deposit for whom the interest is paid
INTEREST_AMOUNT	NUMBER(18,8)	Yes	The security deposit interest amount calculated by billing
INTEREST_CALC_TYPE	VARCHAR2(20)	Yes	FIXED or DAILY
INTEREST_ACCT_ID	VARCHAR2(20)	Yes	The interest account ID used by billing for calculating the interest. NULL if INTEREST_CALC_TYPE = FIXED

Name	Data type	Null	Comment
INTEREST_RATE	NUMBER(18,8)	Yes	The STATIC Interest Rate used by Billing for calculating the interest. This is NULL if INTEREST_CALC_TYPE <> FIXED

Participant interface changes

Data Model table	File ID	CSV report type	Change
BILLING_EFTSHORTFALL_AMOUNT	BILLINGSHORTFALL	BILLING,EFTSHORTFALL_AMOUNT,1	New
BILLING_EFTSHORTFALL_DETAIL	BILLINGSHORTFALL	BILLING,EFTSHORTFALL_DETAIL,1	New
BILLING_SECDEPOSIT_APPLICATION	BILLING	BILLING,SECDEPOSIT_APPLICATION,1	New
BILLING_SECDEP_INTEREST_RATE	BILLING	BILLING,SECDEP_INTEREST_RATE,1	New
BILLING_SECDEP_INTEREST_PAY	BILLING	BILLING,SECDEP_INTEREST_PAY,1	New

File interface changes

File ID	Description	Batcher file masks	Frequency	Change	Data Model	Auto-subscription
BILLINGSHORTFALL	Billing shortfall Calculation Results	*_BILLINGSHORTFALL_*.CSV	On posting of Billing shortfall Run for the shortfall affected contract year/week	New	Yes	No
BILLING	Results from a published Billing Run. The settlement data and billing run data are updated daily between 6am and 8am for AEMO's prudential processes. In a normal week, AEMO publishes one PRELIM, one FINAL and two REVISION runs in addition to the daily runs.	*_BILLING_*.CSV	On posting Billing RUN	New	Yes	No

Discontinued reports

Participants must ensure they remove all dependencies on these CSV report types prior to the deployment of this Release. If a report is discontinued in a Legacy file you are receiving, you may be impacted.

MMS Data Model table	File ID	Delivered in file	CSV report type	Replaced by
BILLING_APC_COMPENSATION	BILLING_LEGACY	BILLING*_LEGACY.CSV	BILLING, APC_COMPENSATION,1	APC_COMPENSATION,2
BILLING_APC_RECOVERY	BILLING_LEGACY	BILLING*_LEGACY.CSV	BILLING*_LEGACY.CSV	APC_RECOVERY,2

2.5.4 Package: DEMAND_FORECASTS

Regional Demand Forecasts and Intermittent Generation forecasts.

The DEMAND_FORECASTS package changes due to the Helios - Phase 3 ASEFS project. For this Release, when your Data Model upgrade is complete you will see the new tables but no data until the application release early in 2018. AEMO will advise the schedule date as soon as it is available.

The primary key of the ROOFTOP_PV_ACTUAL table changes to INTERVAL_DATETIME, TYPE, REGIONID.

Modified table: ROOFTOP_PV_ACTUAL

Comment	Estimate of regional Rooftop Solar actual generation for each half-hour interval in a day
Visibility	Public
Trigger	Event timing – every 30 minutes
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key	INTERVAL_DATETIME + TYPE + REGIONID Changes from INTERVAL_DATETIME + REGIONID

Added columns: ROOFTOP_PV_ACTUAL

Name	Data type	Null	Comment
Type	Varchar2(20)	No	One of DAILY, MEASUREMENT or SATELLITE
QI	Number(2,1)	Yes	Quality indicator. Represents the quality of the estimate.

Participant interface changes

Data Model table	File ID	CSV report type	Change
DEMAND_FORECASTS	ROOFTOP_PV_ACTUAL	ROOFTOP,ACTUAL,2	Modified

File interface changes

File ID	Description	Batcher file masks	Frequency	Change	Data Model	Auto-subscription
ROOFTOP_PV_ACTUAL	Estimate of regional Rooftop Solar actual generation for each half-hour interval in a day	*_ROOFTOP_PV_ACTUAL_*	Every 30 minutes	Modified	yes	No

Discontinued reports

None for the DEMAND_FORECASTS package.

2.5.5 Package: DISPATCH

Market Suspensions and administer pricing event data

The DISPATCH package changes due to the P1242 – Automation of Market Suspension Pricing

New table: DISPATCH_INTERCONNECTION

Comment	Inter-regional flow information common to or aggregated for regulated (i.e. not MNSP) Interconnectors spanning the From-Region and To-Region - NB only the pricing run is calculated
Visibility	Public
Trigger	Every 5 minutes
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key (in order)	SETTLEMENTDATE + RUNNO + FROM_REGIONID + TO_REGIONID + INTERVENTION

Columns: DISPATCH_INTERCONNECTION

Name	Data type	Null	Comment
SETTLEMENTDATE	DATE	No	Dispatch interval from which this regime applies
RUNNO	NUMBER(3,0)	No	Unique run ID
INTERVENTION	NUMBER(2,0)	No	Market Rules define what intervention is
FROM_REGIONID	VARCHAR2(20)	No	Nominated RegionID from which the energy flows
TO_REGIONID	VARCHAR2(20)	No	Nominated RegionID to which the energy flows

Name	Data type	Null	Comment
DISPATCHINTERVAL	NUMBER(22,0)	Yes	Dispatch period identifier, from 001 to 288 in format YYYYMMDDPPP
IRLF	NUMBER(15,5)	Yes	Inter-Regional Loss Factor. Calculated based on the MWFLOW and the nominal From and To Region losses.
MWFLOW	NUMBER(16,6)	Yes	Summed MW flow of the parallel regulated Interconnectors
METEREDMWFLOW	NUMBER(16,6)	Yes	Summed Metered MW flow of the parallel regulated Interconnectors
FROM_REGION_MW_LOSSES	NUMBER(16,6)	Yes	Losses across the Interconnection attributable to the nominal From Region
TO_REGION_MW_LOSSES	NUMBER(16,6)	Yes	Losses across the Interconnection attributable to the nominal To Region
LASTCHANGED	DATE	Yes	Last date and time record changed

Participant interface changes

Data Model table	File ID	CSV report type	Change
DISPATCH_INTERCONNECTION	DISPATCHIS	DISPATCH,INTERCONNECTION,1	New table

File interface changes

File ID	Description	Batcher file masks	Frequency	Change	Data Model	Auto-subscription
DISPATCHIS	Dispatch in data model format	*_DISPATCHIS_*	Every 5 minutes	New report	Yes	No

File ID	Description	Batcher file masks	Frequency	Change	Data Model	Auto-subscription
PRICE_REVISION_DISPATCH	Contains both 5-minute dispatch and 30-minute trading interval price updates.	*_PRICE_REVISION_DISPATCH_*	Generated when there is a price adjustment to a 5-minute dispatch interval.	Updated	Yes	No
PRICE_REVISION_DISPATCHIS	An audit trail of price changes on the DISPATCHPRICE table (i.e. 5-minute dispatch prices for energy and FCAS).	*_PRICE_REVISION_DISPATCHIS_*	Generated when there is a price adjustment to a 5-minute dispatch interval.	Updated	Yes	No

Discontinued reports

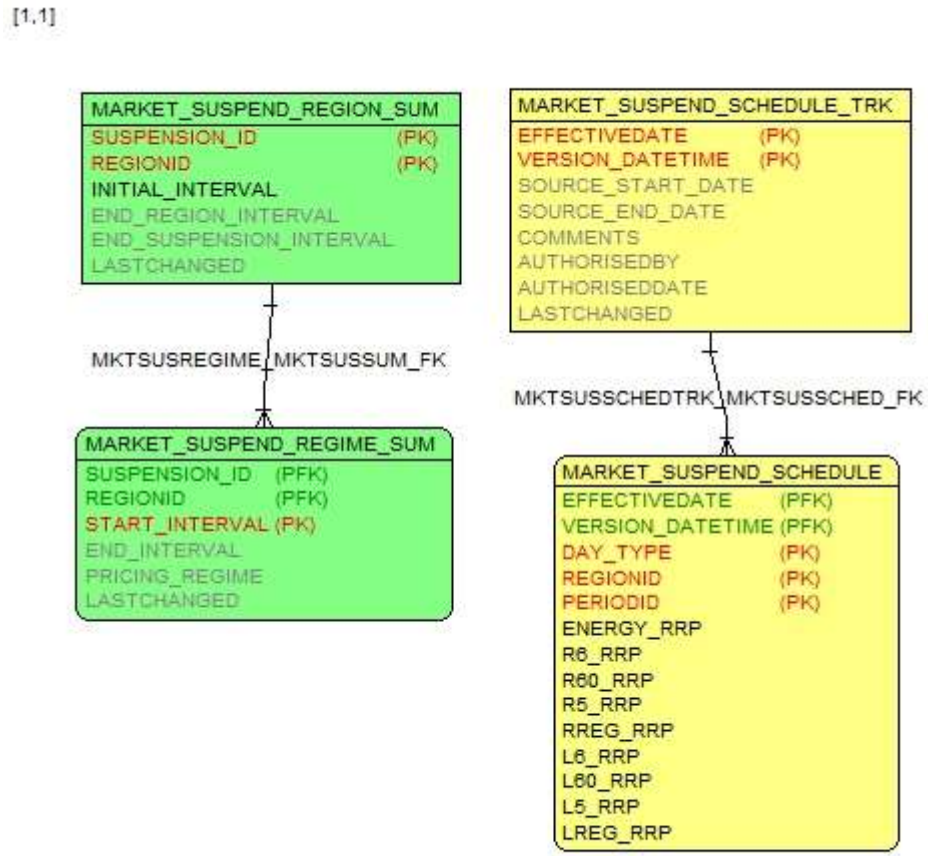
Participants must ensure they remove all dependencies on these CSV report types prior to the deployment of this Release. If a report is discontinued in a Legacy file you are receiving, you may be impacted.

MMS Data Model table	File ID	Delivered in file	CSV report type	Replaced by
DISPATCHINTERCONNECTORRES	DISPATCHIS	*_DISPATCHIS_*	DISPATCH,INTERCONNECTORRES,2	DISPATCH,INTERCONNECTORRES,3
DISPATCHPRICE	DISPATCHIS	*_PRICE_REVISION_DISPATCH_*	DISPATCH,PRICE,3	DISPATCH,PRICE,4

2.5.6 Package: FORCE_MAJEURE

Market Suspensions and administer pricing event data

The FORCE_MAJEURE package changes due to P1242 – Automation of Market Suspension Pricing



New table: MARKET_SUSPEND_REGION_SUM

Comment	'Summary of Market Suspension timings
Visibility	Public
Trigger	Creation of Market Suspension
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	SUSPENSION_ID, REGIONID

Columns: MARKET_SUSPEND_REGION_SUM

Name	Data type	Null	Comment
SUSPENSION_ID	VARCHAR2(20)	No	Unique identifier for this suspension event
REGIONID	VARCHAR2(20)	No	Region(s) covered by the Suspension event
INITIAL_INTERVAL	DATE	Yes	Initial interval of the Suspension event
END_REGION_INTERVAL	DATE	Yes	Last Dispatch interval for the Suspension event for this Region
END_SUSPENSION_INTERVAL	DATE	Yes	Last Dispatch interval for the Suspension event
LASTCHANGED	DATE	Yes	Last DateTime the Suspension was administered

New table: MARKET_SUSPEND_REGIME_SUM

Comment	Tracks the evolution of pricing regimes applied to the suspended region and from which Dispatch Interval
Visibility	Public

Trigger	Market Suspension
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key (in order)	SUSPENSION_ID + REGIONID + START_INTERVAL

Columns: MARKET_SUSPEND_REGIME_SUM

Name	Data type	Null	Comment
SUSPENSION_ID	VARCHAR2(20)	No	Unique identifier for this suspension event
REGIONID	VARCHAR2(20)	No	Region(s) covered by this evolution of the event
START_INTERVAL	DATE	No	First Dispatch interval from which this regime applies
END_INTERVAL	DATE	Yes	Last Dispatch interval for which this regime applies
PRICING_REGIME	VARCHAR2(20)	Yes	Pricing Regime applied
LASTCHANGED	DATE	Yes	Last date and time record changed

New table: MARKET_SUSPEND_SCHEDULE_TRK

Comment	Parent table for pricing regimes used in suspensions
Visibility	Public
Trigger	Market Suspension
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports

Primary key (in order)	EFFECTIVEDATE

Columns: MARKET_SUSPEND_SCHEDULE_TRK

Name	Data type	Null	Comment
EFFECTIVEDATE	DATE	No	Calendar date from when this record set is effective
SOURCE_START_DATE	DATE	Yes	Start Date of the date range for the source data
SOURCE_END_DATE	DATE	Yes	End Date of the date range for the source data
COMMENTS	Varchar2(1000)	Yes	Reason why this regime was applied
AUTHORISEDDATE	DATE	Yes	DateTime this record set was loaded
LASTCHANGED	DATE	Yes	Last date and time record changed

New table: MARKET_SUSPEND_SCHEDULE

Comment	Trading prices that will apply in the event of a market suspension event updated weekly.
Visibility	Public
Trigger	Weekly + ad hoc
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\import\Reports\CSVReports
Primary key (in order)	EFFECTIVEDATE, DAY_TYPE, REGIONID, PERIODID

Columns: MARKET_SUSPEND_SCHEDULE

Name	Data type	Null	Comment
EFFECTIVEDATE	Date	No	Calendar date from when this record set is effective
DAY_TYPE	Varchar2(20)	No	Distinguishes which record set to apply - at time of writing this was Business or Non-business day but may change in the future depending on outcome of consultation
REGIONID	Varchar2(20)	No	Region affected.
PERIODID	Number(3,0)	No	48 intervals for a day, midnight base (equates to 00:30 - 00:00)
ENERGY_RRP	Number(15,5)	Yes	Energy Price applied for this period for this Day Type
R6_RRP	Number(15,5)	Yes	Raise 6Sec contingency Price applied for this period for this Day Type
R60_RRP	Number(15,5)	Yes	Raise 60Sec contingency Price applied for this period for this Day Type
R5_RRP	Number(15,5)	Yes	Raise 5Min contingency Price applied for this period for this Day Type
RREG_RRP	Number(15,5)	Yes	Raise Regulation Price applied for this period for this Day Type
L6_RRP	Number(15,5)	Yes	Lower 6Sec contingency Price applied for this period for this Day Type
L60_RRP	Number(15,5)	Yes	Lower 60Sec contingency Price applied for this period for this Day Type
L5_RRP	Number(15,5)	Yes	Lower 5Min contingency Price applied for this period for this Day Type
LREG_RRP	Number(15,5)	Yes	Lower Regulation Price applied for this period for this Day Type
LASTCHANGED	DATE	Yes	Last date and time record changed

Participant interface changes

Data Model table	File ID	CSV report type	Change
MARKET_SUSPEND_REGION_SUM	SUSPENSION_REGION	FORCE_MAJEURE, MARKET_SUSPEND_REGION_SUM,1	New
MARKET_SUSPEND_REGIME_SUM	SUSPENSION_REGIME	FORCE_MAJEURE, MARKET_SUSPEND_ REGIME_SUM,1	New
MARKET_SUSPEND_SCHEDULE_TRK	SUSPENSION_SCHEDULE	FORCE_MAJEURE, MARKET_SUSPEND_SCHEDULE_TRK,1	New
MARKET_SUSPEND_SCHEDULE	SUSPENSION_SCHEDULE	FORCE_MAJEURE, MARKET_SUSPEND_SCHEDULE,1	New

File interface changes

File ID	Description	Batcher file masks	Frequency	Change	Data Model	Auto-subscription
SUSPENSION_SCHEDULE	Market Suspension Prices	*_MARKET_SUSPENSION_PRICES_*.CSV	Weekly	Updated	Yes	Yes
SUSPENSION_REGION	Regions included in the Market Suspension event	*_MARKET_SUSPENSION_REGION_*.CSV	Ad hoc	New	Yes	Yes
SUSPENSION_REGIME	Pricing regime applied to suspended regions – either 'SCHEDULE' or 'DISPATCH'	*_MARKET_SUSPENSION_REGIME_*.CSV	Ad hoc	New	Yes	Yes

Discontinued reports

Research into credible Market Suspension scenarios showed the current model is inadequate so a more comprehensive model is included in this Release.

Participants must ensure they remove all dependencies on these CSV report types prior to the deployment of this Release. If a report is discontinued in a Legacy file you are receiving, you may be impacted.

MMS Data Model table	File ID	Delivered in file	CSV report type	Replaced by
MARKETSUSREGION	MARKETSUSPENSION	*_FORCE_MAJEURE_*.CSV	FORCE_MAJEURE,MARKETSUSREGION,1	FORCE_MAJEURE,MARKET_SUSPEND_REGION,1
MARKETSUSPENSION	MARKETSUSPENSION	*_FORCE_MAJEURE_*.CSV	FORCE_MAJEURE,MARKETSUSPENSION,1	FORCE_MAJEURE,MARKET_SUSPEND,1
N/A	MARKETSUSPENSION PRICES	*_MKTSUSP_PRICES_*.CSV	MKTSUSP_PRICES,DATESAPPLICABLE,1 MKTSUSP_PRICES,WEEKLY,1	FORCE_MAJEURE,MARKET_SUSPEND_SCHEDULE_TRK,1 FORCE_MAJEURE, MARKET_SUSPEND_SCHEDULE,1

Non-Data Model reports

This non-Data Model report contains a field called **EFFECTIVEDATETO** that AEMO cannot support with confidence because it is the expected date of the supersedure not the guaranteed date. AEMO publishes this file for reference only so it is replaced in this Release rather than discontinued.

File ID	MarketSuspensionPrices
Description	Public Automation Generation of Market Suspension Prices
Visibility	Public
Report type	csv

NEMweb location	aemo.com.au/Market Notices/Market Suspension
Replaced by	MarketSuspensionPrices (only the data inside the file changes, the file name remains the same.

2.6 Gas Data Model 1.4

2.6.1 GAS_SUPPLY_HUB

Gas Supply Hub markets reports to provide participants with information on their trades, prudential exposure, settlement runs, and registration details

The GAS_SUPPLY_HUB package changes due to the P1209 – Security Deposit Calculation project.

New table: GSH_SECDEPOSIT_INTEREST_RATE

Comment	The Security Deposit Interest Rate On Daily Basis. This is the public table published when a new floating daily interest rate is entered and authorised.
Visibility	PUBLIC
Trigger	Upon entering and authorising Security Deposit Interest Rate
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\GSH\REPORTS
Primary key	INTEREST_ACCT_ID + EFFECTIVEDATE + VERSION_DATETIME

New columns: GSH_SECDEPOSIT_INTEREST_RATE

Name	Data type	Null	Comment
INTEREST_ACCT_ID	VARCHAR2(20)	No	The Interest Account Id for calculating the Interest Payment. This is NULL if the INTEREST_CALC_TYPE = FIXED

Name	Data type	Null	Comment
EFFECTIVEDATE	DATETIME	No	The Effective Date of the Interest Rate Change
VERSION_DATETIME	DATETIME	No	The Version Date time of the Effective Date for the Interest Rate Change
INTEREST_RATE	NUMBER(18,8)	Yes	The Interest Rate for the Interest Account ID as on the Effective Date

Modified table: GSH_PRD_SECURITY_DEPOSITS

Comment	Gas Supply Hub Prudential Exposure Details
Visibility	PRIVATE
Trigger	1 am daily
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\GSH\REPORTS
Primary key	ORGANISATION_CODE + PARTICIPANT_CODE + PRUDENTIAL_DATETIME + PRUDENTIAL_RUN_ID + SECURITY_DEPOSIT_ID

Added columns: GSH_PRD_SECURITY_DEPOSITS

Name	Data type	Null	Comment
INTEREST_CALC_TYPE	VARCHAR2(20)	Yes	Fixed or daily.
INTEREST_ACCT_ID	VARCHAR2(20)	Yes	The Interest Account ID for calculating the Interest Payment. This is NULL if the INTEREST_CALC_TYPE = FIXED

Participant interface changes

Data Model table	File ID	CSV report type	Change
GSH_PRD_SECURITY_DEPOSITS	GSH_PRUDENTIAL_EXPOSURE	GSH_PRUDENTIAL,SECURITY_DEPOSITS,2	Modified
GSH_SECDEPOSIT_INTEREST_RATE	GSH_SECDEPOSIT_INTEREST_RATE	GSH, SECDEPOSIT_INTEREST_RATE, 1	Added

File interface changes

File ID	Description	Batcher file masks	Frequency	Change	Data Model	Auto-subscription
GSH_PRUDENTIAL_EXPOSURE	Gas Supply Hub prudential exposure details	*_ PRUDENTIALEXPOSURE _*.CSV	1:00 am each morning	Modified reports	No	No
GSH_SECDEPOSIT_INTEREST_RATE	The security deposit interest rate on a daily basis. This is the public table published when a new floating daily interest rate is entered and authorised.	*_ SECDEPOSIT_INTEREST_RATE_*.CSV	Upon entering and authorising the security deposit interest rate	New	Yes	Yes

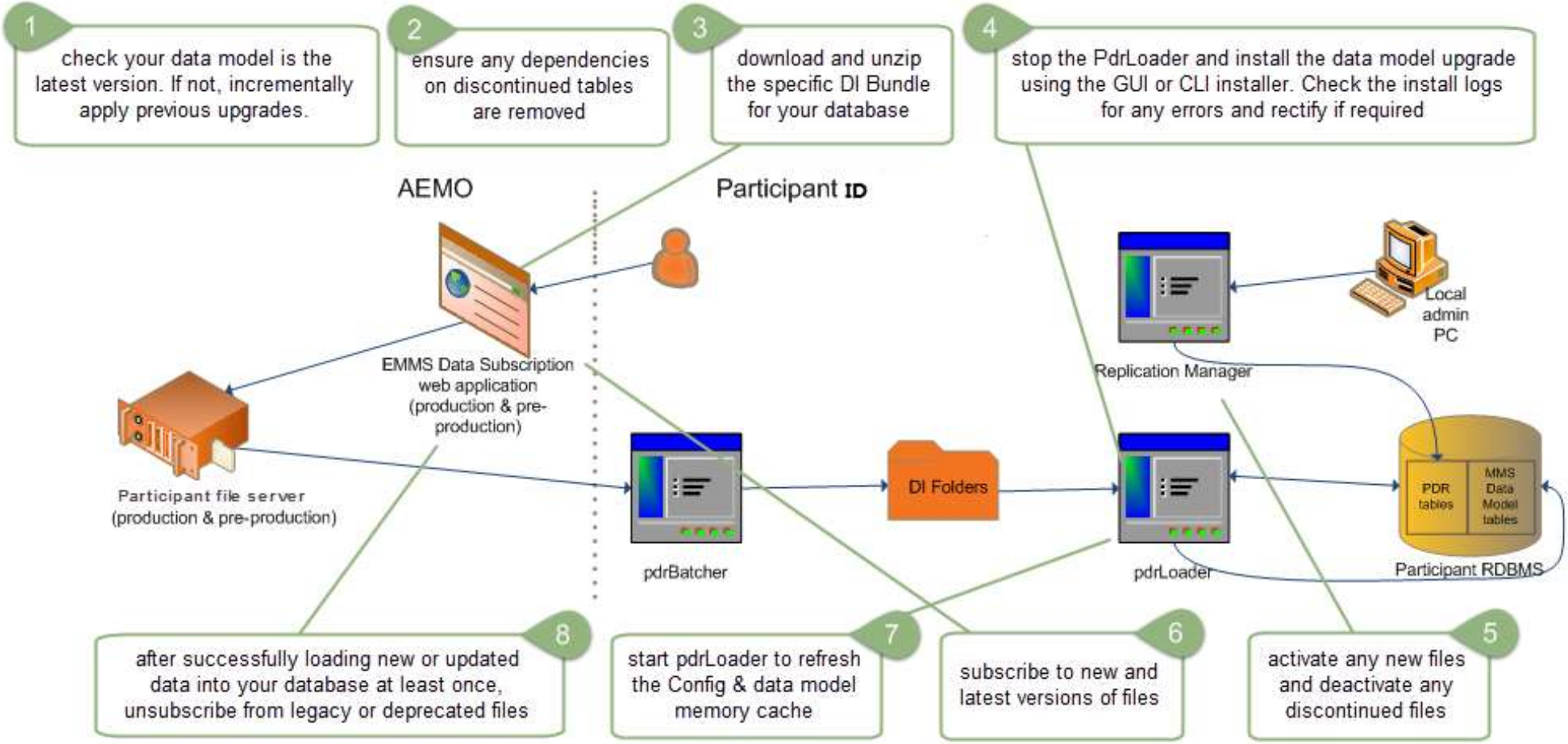
Discontinued reports

None for the Gas Supply Hub package.

2.7 Non-functional changes

None for this Release.

2.8 How to apply a Data Model upgrade



3 BASELINE ASSUMPTIONS

AEMO works to the assumption that participants' systems are compliant with the minimum supported configuration of the following software and systems.

3.1 Software

The current software versions are:

	Current version	Release	Still supported
Web Services	1.04	June 2013	n/a
Java	7	n/a	n/a
Windows service	64 bit JRE	n/a	32 bit JRE

3.2 Data Interchange

The current DI software versions are:

	Current version	Still supported
Electricity Data Model	4.27	4.26
Gas Data Model	1.4	1.3
PDR Loader	7.3	7.3
PDR Batcher	7.3	7.3
Replication Manager	v3.0.16	v3.0.16

3.3 Database management systems

Oracle 10g platform installs are unsupported. AEMO encourages participants to upgrade to 12c or 11g to remain on a supported Oracle platform.

AEMO discontinues version 2008 of Microsoft SQL Server in this Release. The new current version is 2014.

	Current	Still supported
Microsoft SQL Server	2014	2012
Oracle	12c	11g

4 IMPLEMENTATION

4.1 Approval or agreement to change

This Release Schedule is for Information only. AEMO sought approval to proceed in EMMS Release Schedule – October and November 2017 v1.00.

4.2 Implications

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

- Review and assess the impact on their market systems with respect to the changes implemented as part of this Release.
- Change their systems prior to the implementation of this Release to ensure they are up-to-date. AEMO recommends participants' wholesale market systems are compliant with the latest Data Interchange software versions; see Baseline Assumptions on page 69.
- Schedule staff and resources to upgrade their market systems for the production implementation of this Release.
- If participants have a system dependency on the formats of the non-Electricity or -Gas Data Model reports they need to manage these dependencies using the detail provided in this technical specification.

4.3 After deployment of this Release

- To receive the new data in the modified packages and tables, participants must upgrade their data models to electricity 4.27 or gas 1.4.
- Once upgraded, and the new data is received, you can unsubscribe from the Legacy files.
- AEMO automatically moves participants' subscriptions to the Legacy file. This ensures participants on Data Model versions: electricity 4.26 or gas 1.3, subscribed to files that change, will continue to receive the same data.
- Participants on Data Model versions: electricity 4.25, gas 1.2 or earlier remain on any subscribed Legacy files but may receive different content if the Legacy file content has changed.

4.4 What happens if I do not upgrade?

Participants who do not upgrade will not receive the following new Data Model reports when they become available:

- MTPASA
- Helios – Phase 2 ASEFS
- NEM Shortfall Calculation
- Security Deposit Calculation

- Automation of Market Suspension Pricing

Not upgrading may also 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, will not receive the new data.
- Content in Legacy files may change after deployment of this Release.

5 GLOSSARY

Abbreviation	Explanation
ASEFS	Australian Solar Energy Forecasting System
csv	Comma-separated values; A plain text file format with fields separated by a comma or some other character.
Data Interchange (DI)	The set of cooperating applications to replicate data between AEMO's Wholesale Market Systems and a participant's RDBMS conforming to the Electricity and/or Gas Data Models.
Data Model	Refers to the Electricity or Gas Data Models, which is the definition of the interface to participants for data published by AEMO.
DBMS	Database Management System
DSP	Demand Side Participation: Information *Registered Participants* must provide to *AEMO*. For more information, see the Demand side participation information guidelines in the NER, clause 3.7D.
LOR	Loss of Reserve
Markets Portal	AEMO's web-based wholesale market management system.
MTPASA	Medium Term PASA
MW	Megawatt
NEMweb	Public market data in csv file format: http://www.nemweb.com.au/
NER	National Electricity Rules
PASA	Projected Assessment of System Availability
PD	Pre-dispatch
Release	EMMS October and November Releases 2017.
Reliability Standard	The minimum acceptable reliability target that the NEM should achieve. The reliability standard is set out in Rules clause 3.9.3 C.
Unserved Energy (USE)	Load not met due to insufficient bulk supply or transmission.

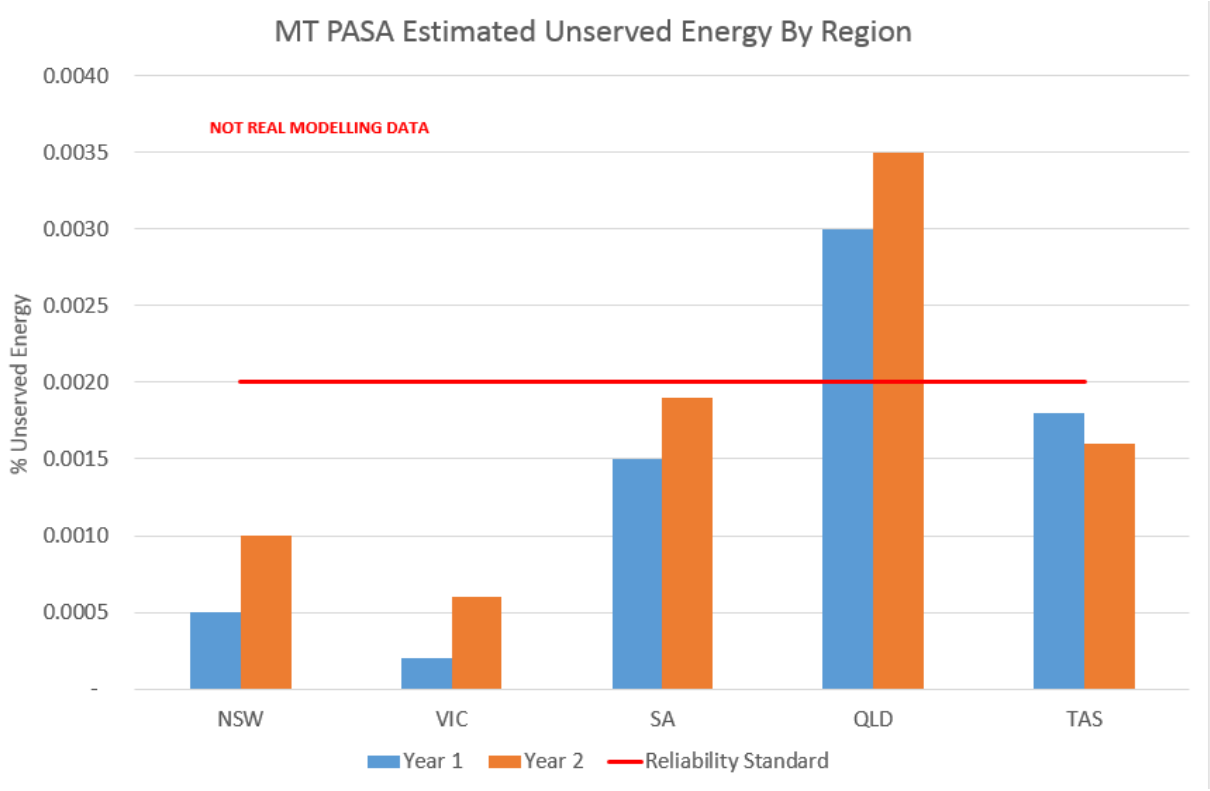
Appendix A AEMO website visualisations for MTPASA

The visualisations in this section are examples only; the final designs may change. The data used in the graphs is not real modelling data.

A.1. Estimated Unserved Energy and Indication of whether the reliability standard can be met

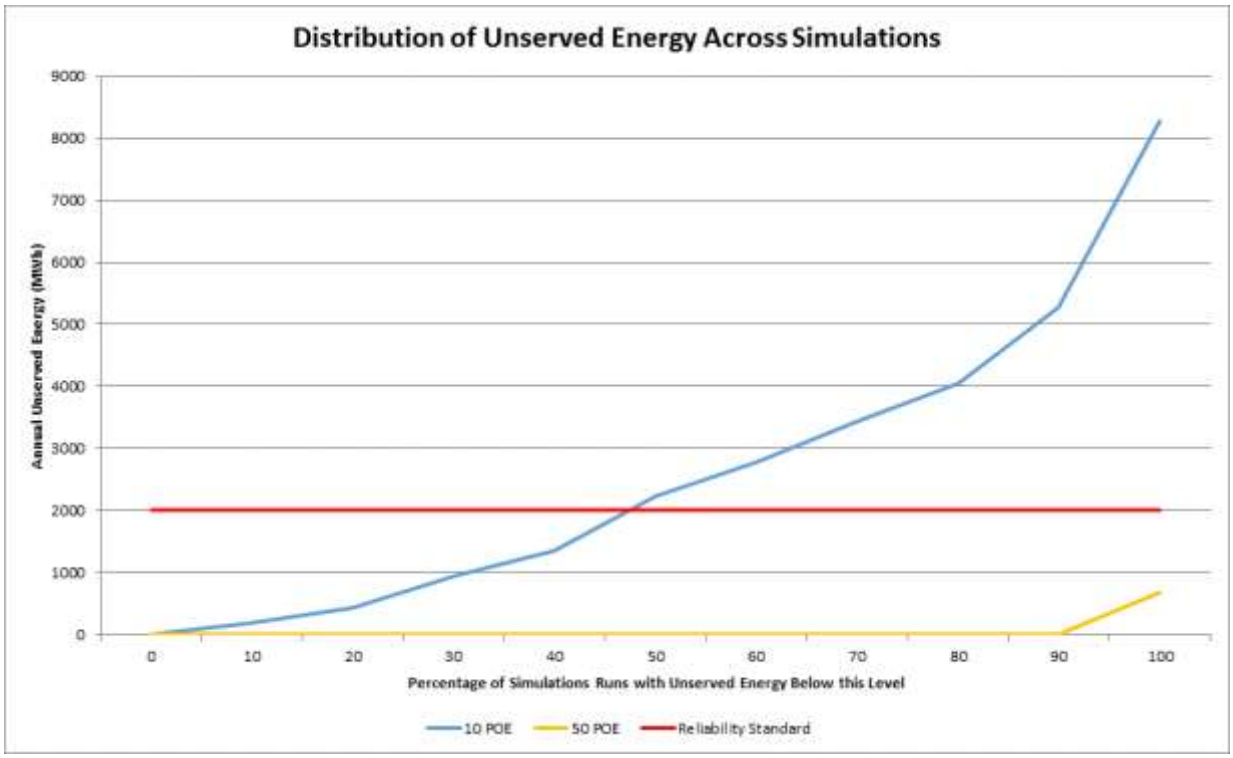
Provides an overall indication of whether the reliability standard in each region will be met, based on the modelling results.

If a bar in the chart is above the reliability standard line, it flags a **low reserve condition** for that particular region.



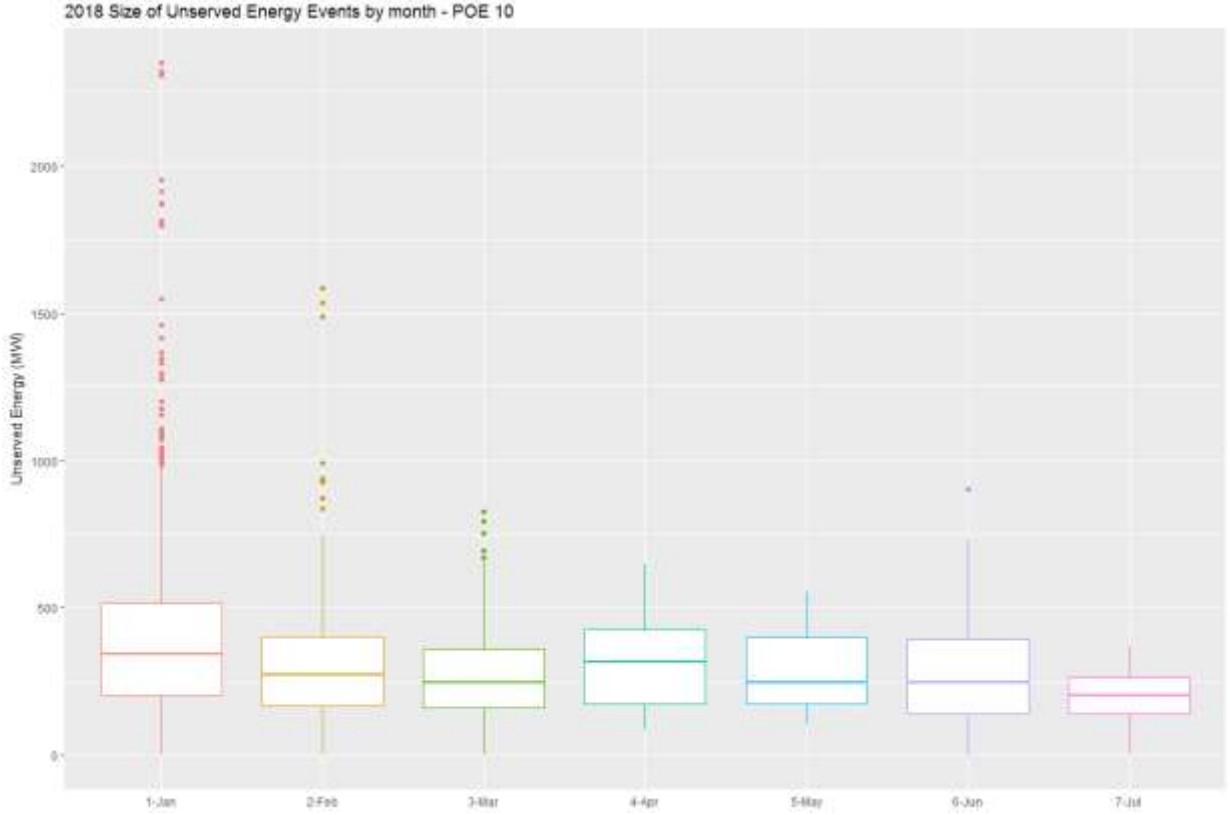
A.2. Distribution of Unserved Energy

Shows the distribution of unserved energy over each year in each region for each POE demand level.



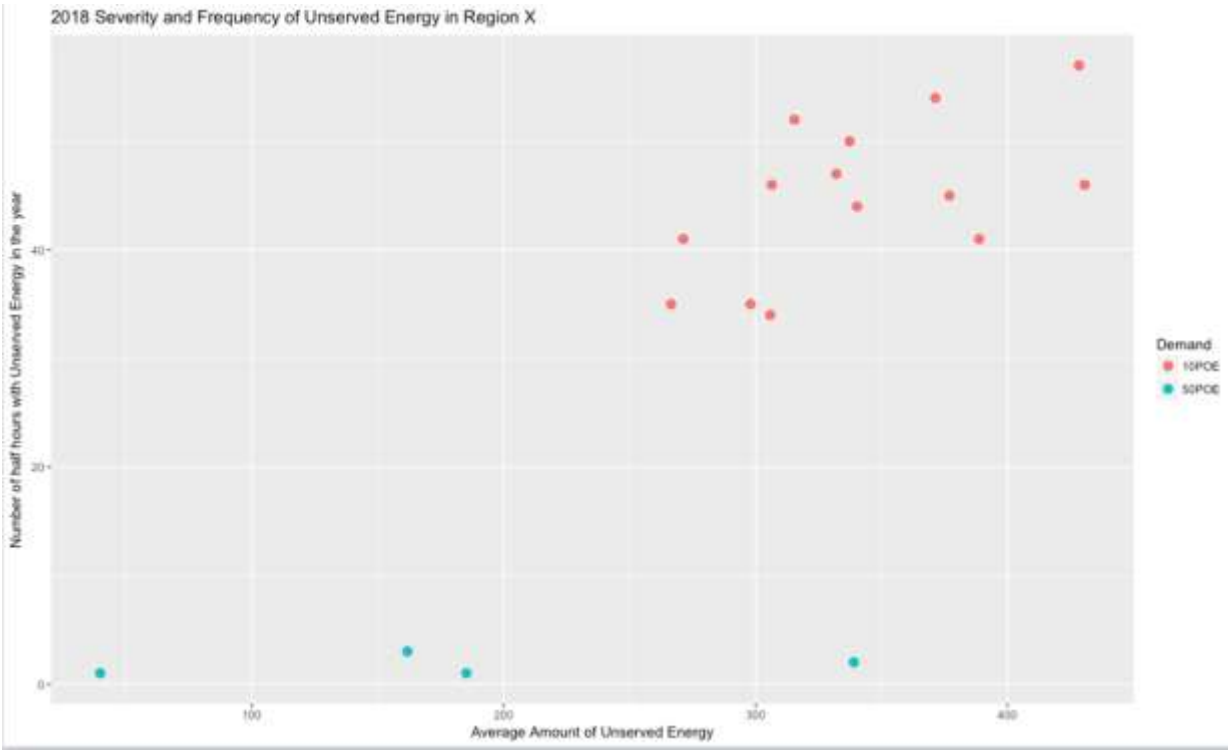
A.3. Unserved Energy by Month

Displays the distribution of unserved energy events in each month of the year.



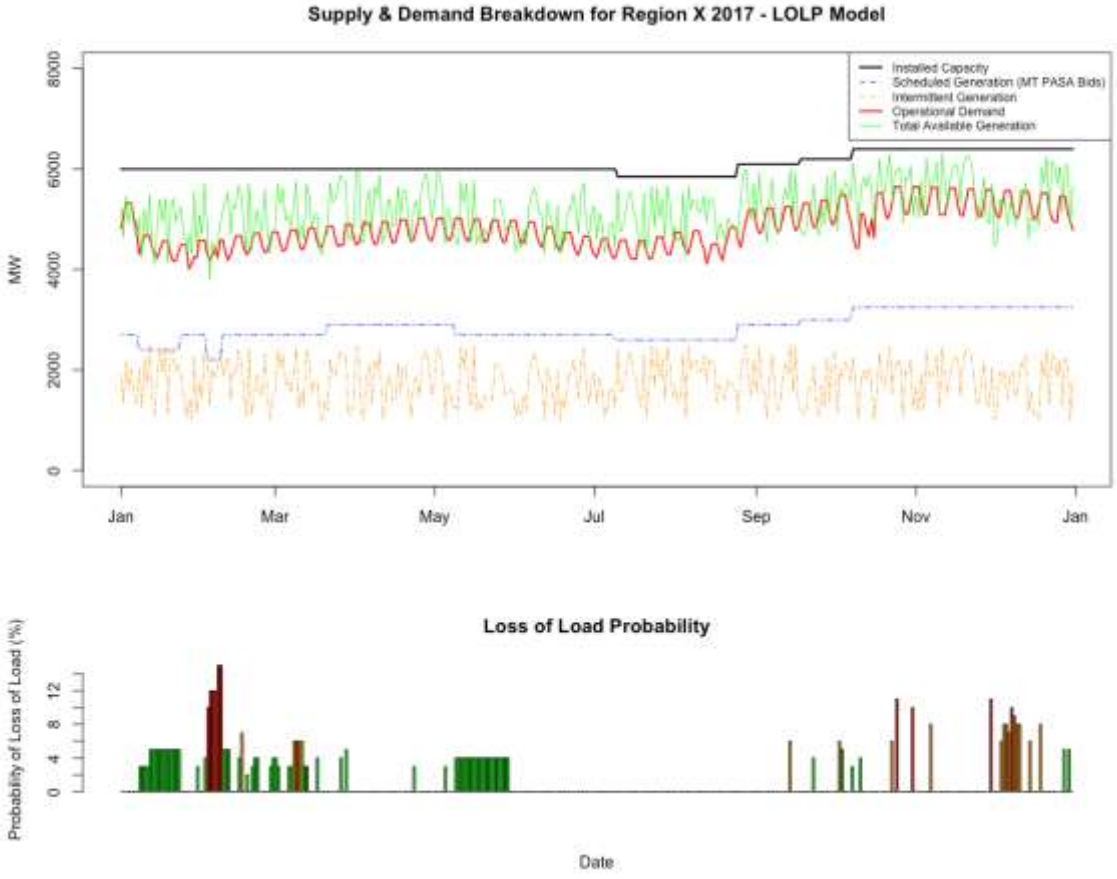
A.4. Severity and Frequency of Unserved Energy

Shows the frequency and severity of unserved energy occurring in each simulation. For each simulation, the number of half hours with unserved energy and the average amount of unserved energy is calculated.



A.5. LOLP Model Run output

Provides an indication of the best time to schedule maintenance.



A.6. Interconnector Capacity

Provides high value information on the average interconnector capacity (includes network outages) across different iterations.