EMMS - Technical Specification - Data Model v5.3 - April 2024

2.01~~1.02~~ April 2024

Pre-production: 13 March 2024

Production: 10 April 2024

Release series: EMMS042024

Important notice

Purpose & audience

This document describes the technical changes required to participant's systems for the EMMS - Technical Specification - Data Model v5.3 - April 2024 (Release). The Australian Energy Market Operator (AEMO) provides this information as a service targeting business analysts and IT staff in participant organisations. It provides guidance about the changes to their market systems under the National Electricity Rules (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. Some links require access to MarketNet.
- **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 Rules and information or a term in this document, the Rules take precedence.
- Glossary Terms are capitalised and have the meanings listed against them in the Glossary.
- Rules Terms have the meaning listed against them in the **National Electricity Rules** (Rules).

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Distribution

Available to the public.

Document Identification

Prepared by: AEMO Digital

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Version History

2.011~~.02~~ See Changes in this version.

Documents made obsolete

The release of this document changes only the version of EMMS - Technical Specification - Data Model v5.3 - April 2024.

Support Hub

To contact AEMO's Support Hub use Contact Us on AEMO's website or for urgent matters phone: 1300 AEMO 00 (1300 236 600.

Contents

1 Introduction

1.1 Audience

AEMO provides this information as a service targeting business analysts and IT staff in Registered Participant companies.

1.2 Objective

The EMMS - Technical Specification - Data Model v5.3 - April 2024 (Release) describes the projects planned by AEMO from a participant perspective and includes any system related changes for participants.

1.3 Status

Version	Status
2.01~~1.02~~	**Final. The Data Model is now available in Production.**
2.00	**Final. The Data Model is now available in Production.**
1.02	The data model design is about 99% complete and certified for the preproduction environment but NOT for the production environments.
1.01	The data model design is about 99% complete and certified for the preproduction environment but NOT for the production environments.
1.00	The data model design is about 95% complete and certified ONLY for the Participant Development Support environment and NOT for the preproduction and production environments.
0.05	The data model design is about 90% complete and certified ONLY for the Participant Development Support environment and NOT for the preproduction and production environments.
0.04	The data model design is about 88% complete and certified ONLY for the Participant Development Support environment and NOT for the preproduction and production environments.
0.03	The design is about 85% complete.
0.02	The design is in progress. Not ready for participants' build.

Version	Status
0.01	 **Initial Draft for review. The design is not ready for participants' builds** Presents the EMMS - Technical Specification - Data Model v5.3 - April 2024 evolving design. Please send feedback to **techwriters@aemo.com.au**

1.4 Release dates

Scheduled for implementation in:

- Pre-production: 13 March 2024
- Production: 10 April 2024

1.5 Projects and enhancements

Changes and enhancements for this Release include:

Functionality	Change	Affected interface	Reference
Integrating Energy Storage Systems (IESS)		Markets Portal, API, FTP, Data Model	

1.6 Rule and procedure changes

The following rules and procedures take precedence over technical specifications and guides.

Title	Version/status	Effective
Integrating energy storage systems into the NEM | AEMC	V1.0	
IESS HLD Final version v2.0	V1.1	
IESS – Implementation Strawperson		
SO_OP3705 Dispatch operating procedure		
Regulation FCAS Contribution Factors Procedure (Causer Pays)	Version 7.0	

1.7 Related technical specifications

Title	Description
EMMS Technical Specification – June 2024	Provides details about the changes to different Wholesale workstreams for the IESS project release in June 2024.

1.8 Related documents

Once published, these resources take precedence over this technical specification

These guides and resources are updated according to this technical specification and published for the pre-production Release Date.

Title	Description	Status
Markets Portal Help	Help using the Markets Portal web applications	In progress
Data Interchange Online help	Help using Data Interchange and the Data Model	Not started
NEM Dispatch Bidding API Reference	Allows authorised participants to submit and retrieve their NEM Dispatch Bids/Offers.	In progress
API Reference	Help using AEMO's e-Hub as an interface to communicate information with AEMO.	In progress

1.9 Approval to change

There is no approval or agreement to change required from participant change controllers for this Release. This Data Model release is part of the **Integrating energy storage systems into the NEM | AEMC** rule change.

Changes were discussed in a range of **NEM Reform program stakeholder forums**.

1.10 Market systems user group meetings

The Market Systems User Group (MSUG) is an industry user group established to discuss NEM wholesale and retail IT systems releases. Its purpose is to facilitate the continuing improvement of AEMO's IT systems by seeking feedback and collaboration from participants.

MSUG meetings are open to all interested parties, with invitations sent to all included on the distribution list. If you have a technical question for a project and want to attend the MSUG ask your company's support team to include your email address in their **AEMO Help Desk Bulletin (CRM)** distribution list.

1.11 Version numbers

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

Incremental version numbers such as 1.01, 2.01 and so on mean there is a minor 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, detailed below.

1.12 Changes in this version

The updates in this version include:

- Fixes Visibility for the following tables:
- DISPATCHLOAD – Private, ~~Updates status to FINAL.~~
- ~~Adds section in Reports chapter about MDP substitution type 13 data.~~
  - Public Next-Day
  - PREDISPATCHLOAD – Private, Public Next-Day
  - P5MIN_UNITSOLUTION - Private

2 Proposed Timeline

The dates for the Market System User Group Meetings (MSUG) are tentative. We will provide an invitation one week prior to the meeting.

The rows of the table highlighted in grey indicate milestones for Participant Development Support Environment.

Milestone	Date	Description
Approval required	NA	Final date for participant approval of this Release.
Revised Technical Specification	(TBC)	AEMO releases new versions of this document as the technical requirements are streamlined. During the project this document is the source of truth. From the pre-production release, the technical specification is no longer updated, the **related documents** become the source of truth. **Release schedules and technical specifications**
Related Documents publication	2 April 2024	Release of guides and resources mentioned in Related on page 3
Early release of draft Data Model scripts for Participant Development Support Environment	22 November 2023	AEMO provides the draft Data Model scripts to participants
Settlements reports for Participant Development Support	15 December 2023	One-off delivery of Settlements reports AEMO provides Settlements reports to Participants to support their development and provide early visibility of Settlements table changes.

Milestone	Date	Description
Transition scripts to backfill Bidding tables from backup tables in the Participant Development Support Environment	22 January 2024	Participants require the script to perform their back-population activities for their PDSE testing to work. This transition involves large data sets and participants need to involve a DBA resource to assist. This update is mainly for Participants using the Bidding tables Optional only for those not using the Bidding tables Please refer to the Data Model Release Notes provided for PDSE environment.
BDU tables in the for Participant Development Support Environment	22 January 2024	Environment provided to Participants to support their development and provide early visibility of Bidding changes
Pre-release of Data Model 5.3 scripts for Bidding changes only in the preproduction environment	31 January 2024 - 2 February 2024	Upgrades Participant preproduction systems with Data Model 5.3 tables ONLY for the 4 Bidding table changes with Primary key changes. Participants using the Bidding tables can implement these changes before the full Data Model release to preproduction on 13 March 2024.
MSUG meeting: pre-release review	7 February 2024	Market Systems User Group Meeting (MSUG) to review the technical specification and ask AEMO technical SMEs questions This date is tentative. The Knowledge Management team provides an invitation prior to the meeting
~~**Pre-release 2 of draft Data Model scripts for Participant Development Support Environment**~~	~~16 February 2024~~	~~AEMO provides updated Data Model scripts to participants. This includes any new updates to the scripts since the PDSE drop in November.~~ ~~Participants who have applied the Data Model 5.3 release in November in PDSE need to analyse impact of this updated script as this is not an incremental update. For more information since the November release, see Changes in this version.~~
Pre-release of Data Model 5.3 scripts for Bidding changes only in the production environment	27 February 2024	Upgrades Participant production systems with Data Model 5.3 tables ONLY for the 4 Bidding table changes with Primary key changes. Participants using the Bidding tables can implement these changes before the full Data Model release to production on 10 April 2024.

Milestone	Date	Description
Pre-production refresh	4 March 2024 – 8 March 2024 Refreshed with production data: • Wholesale Electricity: 7 February, 2024 • Retail Electricity: 4 March 2024	Refresh of the pre-production system with data refreshed from the production system. 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 AWEFS, EMMS, OPDMS, and STTM may be intermittently affected. For more information on the pre-production refresh timeline, see **Technical Specification Portal**.
Pre-production Data Model available	13 March 2024 - 15 March 2024	AEMO implements components of the Release to pre-production for participant testing AEMO has full access to the system during this period Participant access is not restricted; however, the data content or system availability is not guaranteed
IESS pre-production implementation	13 March 2024 - 15 March 2024	AEMO implements components of the Release to pre-production for participant testing AEMO has full access to the system during this period Participant access is not restricted; however, the data content or system availability is not guaranteed
IESS pre-production release	3 April 2024	When you receive the Support Hub email advising the implementation is complete, preproduction systems available to participants
Market trials and industry testing	3 April 2024 - 24 May 2024	Participant testing: Unstructured/bilateral participant testing in the pre-production environment Industry testing: Participant testing coordinated by AEMO
MSUG meeting: pre-production review	20 March 2024 (TBC)	Market systems user group meeting to review the implementation of this pre-production release This date is tentative. The Knowledge Management team provides an invitation prior to the meeting

Milestone	Date	Description
Production Data Model available and auto subscription	10 April 2024 No auto-subscription for existing files	For any **existing** files with modified or new tables, if participants are subscribed, AEMO moves them to the Legacy version For all new files, participants are auto subscribed. When you receive the Support Hub email advising the implementation is complete, Production systems available to participants
Procedure/rules effective date	3 June 2024	Procedures mentioned in **Rule and procedure changes**
IESS production implementation	12 May 2024 - 16 May 2024	AEMO implements components of the Release to production for participant testing AEMO has full access to the system during this period Participant access is not restricted; however, the data content or system availability is not guaranteed
IESS production release	02 and 03 June 2024	When you receive the Support Hub email advising the implementation is complete, Production systems available to participants
MSUG meeting: post-production review	24 April 2024 (TBC)	Market systems user group meeting to review the implementation of the production release This date is tentative. The Knowledge Management team provides an invitation prior to the meeting

3 Participant Impact

For more information, see Implementation.

3.1 Participant development support environment

DO NOT apply the scripts to preproduction or production environment.

Participants need to set up a separate instance of the environment to deploy the draft scripts for Data Model 5.3. For more information on the participant development support environment, see **IESS Participant Development Support Environment**. For transition steps in the PDSE environment, see the PDSE- MMS Data Model Release Notes in Releases\MMS Data Model\PDSE\v5.3_BETA in the Participant File Share server.

3.2 Pre-production refresh

For more information on the pre-production refresh timeline, see **Technical Specification Portal**.

3.3 EMMS data model v5.3

Participants wanting to receive the new and updated Data Model information in their Data Interchange environments must upgrade to the latest version of the Data Model v5.3.

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

3.3.1 NEXT_DAY bids

The following section provides more information on NEXT_DAY_* tables:

During the pre-release of Data Model 5.3 in PDSE, AEMO added the DIRECTION field to the following reports as a primary key.

File_id	Added report column	Target tables	Report version	Latest/legacy	Data subscription
NEM_BIDS	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required
BID_MOVE_COMPLETE	DIRECTION	BIDDAYOFFER_D BIDPEROFFER_D	2	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_LEGACY	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required
NEXT_DAY_OFFER_FCAS_LEGACY **NEXT_DAY_OFFER_FCAS_2_LEGACY**	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_SPARSE	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required
NEXT_DAY_OFFER_FCAS_SPARSE	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required

With the release of Data Model 5.3, the current version of the reports additionally includes the PERIODIDTO field. This field ensures participants who apply the prerelease scripts, have the PERIODIDTO field available and populated to transition to Sparse model.

File_id	Target tables	Report version	Latest/legacy	Data subscription
NEM_BIDS	BIDDAYOFFER - DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required
BID_MOVE_COMPLTE	BIDDAYOFFER_D- DIRECTION BIDPEROFFER_D- DIRECTION	2	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_LEGACY	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required
NEXT_DAY_OFFER_FCAS_LEGACY **NEXT_DAY_OFFER_FCAS_2_LEGACY**	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_SPARSE	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required

File_id	Target tables	Report version	Latest/legacy	Data subscription
NEXT_DAY_OFFER_FCAS_SPARSE	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required

The Data Model 5.3 release adds new version of the following reports. Participants subscribed to the current version are moved to LEGACY.

File_id	Target tables	Report version	Data subscription
NEM_BIDS_LEGACY	BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Participants move to LEGACY version of these reports and **MUST** subscribe to latest version to receive the ENERGY_LIMIT field after they have upgraded to the latest Data Model 5.3.
NEM_BIDS	BIDOFFERPERIOD- DIRECTION, PERIODIDTO, **ENERGY_LIMIT**	2	
BID_MOVE_COMPLTE_LEGACY	BIDPEROFFER_D- DIRECTION	2	
BID_MOVE_COMPLETE	BIDPEROFFER_D- DIRECTION, **ENERGY_LIMIT**	3	

3.3.2 PD7DAY changes

The PD7DAY tables have the following changes:

- Currently, the PD7DAY_GPG reports are non-data model reports and there are no changes with this release.
- The Data Model 5.3 release adds a new PD7DAY package along with new Data Model tables and reports.
- There is no impact to participants currently subscribed to PD7DAY_GPG until the Data Model 5.3 upgrade.
- The Data Model 5.3 upgrade renames the existing PD7DAY tables to *_PRE53 and adds new structure for these tables.
- Participants currently subscribed to PD7DAY_GPG move to the PD7DAY_LEGACY report and Data Model 5.3 adds a new version of PD7DAY.
- After applying the Data Model 5.3 upgrade, participants need to **manually subscribe** to the new PD7DAY reports.

- To migrate historical data from any custom loading solutions, participants must develop appropriate scripting for the backfilling activity.

Existing PD7DAY_GPG non data model reports

File_id	Report_id
PD7DAY_GPG	GPG_CASESOLUTION
PD7DAY_GPG	GPG_MARKET_SUMMARY_1
PD7DAY_GPG	GPG_CONSTRAINTSOLUTION_1
PD7DAY_GPG	GPG_INTERCONNECTORSOLUTION_1
PD7DAY_GPG	GPG_PRICES_2

New PD7DAY tables in Data Mode 5.3

File_id	Data model table	Changes to the existing structure
PD7DAY	PD7DAY_CASESOLUTION	No changes
PD7DAY	PD7DAY_MARKET_SUMMARY	DATETIME field has changed to INTERVAL_DATETIME. This is to cater to some database platforms in which the DATETIME field can be a reserved word.
PD7DAY	PD7DAY_CONSTRAINTSOLUTION	No changes
PD7DAY	PD7DAY_INTERCONNECTORSOLUTION	No changes
PD7DAY	PD7DAY_PRICESOLUTION	No changes

3.3.3 DISPATCHLOAD table

In the DISPATCHLOAD table, the ENABLEMENTMIN and ENABLEMENTMAX columns can be negative values for BDUs.

3.3.4 Bidding data model table updates

AEMO introduces a new Primary Key (PK) of DIRECTION field to Bid Package tables:

1. The 10-band bid model is preserved with inclusion of a new DIRECTION field in the primary key (PK) of the main bidding tables of BIDDAYOFFER, BIDOFFERPERIOD, BIDDAYOFFER_D, BIDPEROFFER_D.

2. For a BDU, adding PK implies there are 2 records with same bid data fields with DIRECTION informing which 10 bands are associated to GEN (generation) and LOAD side, that is, separate 10 band model for GEN and LOAD side of the BDU.

3. AEMO back populates the DIRECTION field for all retrospective bid reports (LEGACY/LATEST) in PROD/PREPROD for all unit types and provide participants with an executable script as part of the Data Model 5.3 bid table pre-release (early/mid February) to back populate same in their own databases (as required).

4. The DIRECTION field is populated in bid reports for all unit types regardless of if not provided by participant in submitted bid, that is, AEMO derives if not provided in bid (DIRECTION is mandatory for BDU, optional for all other unit types).

5. Participants remaining on Data Model version 5.2 or less (and associated PDRloader):

   – not consume DIRECTION field present in reports (LEGACY/LATEST) but not supported by PDRloader version to consume.

   – have limitation for BDU only consume one side of bid bands provided (first 10 bid bands) and not second set of 10 bands.

   – for participant to be in line with AEMO data, they must upgrade to the latest version of Data Model v5.3.

3.4 Data subscription

- Participants are automatically subscribed to any newly introduced reports.
- Participants currently subscribed to the existing reports modified in this release move to the legacy version of these reports on the day of the Data Model release.
- Participants should only unsubscribe from legacy version after subscribing to the current version of the report.
- Data Model releases contains updates for various projects. When the project goes live, the updated versions of the reports are made available.

- Participants are only able to subscribe to the new versions of these reports when the project goes live. AEMO notifies participants when the reports are available for subscription.

For help, see:

- **Unsubscribe from files**
- **Subscribing to new EMMS Data Model files**

3.5 What happens if I do not upgrade to Data Model 5.3?

If the participants do not upgrade to EMMS Data Model 5.3, there will be impacts to both Settlements and Billing tables.

3.5.1 Settlements

The following tables are populated for participants staying with Data Model 5.2 as part of the IESS Transitional Reporting.

- SETCPDATA
- SETGENDATA
- SETSMALLGENDATA

If you do not upgrade to Data Model 5.3, the EXPENERGY and EXPORTENERGY columns in the SETGETDATA and SETSMALLGENDATA tables are UFEA adjusted. You will not be able to reconcile the UFEA amount.

After the release of the Data Model 5.3, the Export MWh displayed in these tables are UFE Adjusted MWh Values.

The details of columns modified:

SETCPDATA

IENERGY	NUMBER(16,6)	Import Gross energy into the pool – MWh
XGENERGY	NUMBER(16,6)	Export Gross energy from the pool – MWh

IENERGY	NUMBER(16,6)	Import energy into the pool – MWh. After IESS INEnergy is not adjusted by UFEA
XNENERGY	NUMBER(16,6)	Export energy from the pool – MWh, Plus UFE Allocated MWh. UFEA is always adjusted with Export Energy post IESS. Negative UFEA increases the XNEnergy and Positive UFEA decreases the XNEnergy

SETGENDATA

GENERGY	NUMBER(16,6)	Generated Gross Energy -MWh
NETENERGY	NUMBER(16,6)	Generated Gross Energy – MWh
EXPENERGY	NUMBER(16,6)	Export Energy (Generator Purchases) (MWh) – This is adjusted by UFEA
EXPENERGYCOST	NUMBER(16,6)	Export Energy Cost ($) ($ value corresponding to the Exp Energy which is adjusted by UFEA

SETSMALLGENDATA

IMPORTENERGY	NUMBER(16,6)	The import direction value for the meter read (MWh)
EXPORTENERGY	NUMBER(16,6)	The export direction value for the meter read (MWh) adjusted by UFEA
IMPENERGYCOST	NUMBER(16,6)	Import Energy Cost ($)
EXPENERGYCOST	NUMBER(16,6)	Export Energy Cost ($) (($ value corresponding to the Export Energy which is adjusted by UFEA)

3.5.2 Billing

If participants do not upgrade to Data Model 5.3 and are subscribed to bidding and NEXT_DAY files, the tables start failing since there are primary key changes to the Bidding tables.

4 Project/Enhancement

4.1 Goal

The **Integrating Energy Storage Systems (IESS)** rule seeks to better integrate storage and hybrid systems into the NEM. As a part of this rule change, the following changes are proposed:

- Introduces a new registration category, the Integrated Resource Provider (IRP). The IRP allows storage and hybrids to register and participate in a single Registration Category rather than under two different categories.
- Clarity for scheduling obligations that apply to different configurations of hybrid systems. This includes for DC coupled systems (which have different technologies behind a single inverter) allowing them the flexibility to choose whether those technologies are scheduled or semi-scheduled.
- Transferring existing Small Generation Aggregators to the new category and enabling new aggregators of small generating units and/or storage units to register in this category. Market Customers are still able to include small generating and storage units in their portfolios.
- Enabling aggregators registered in this new category to provide market ancillary services from generation and load.
- Amending the framework to recover non-energy costs based on a participant's consumed and sent out energy over relevant intervals, irrespective of the participant category in which it is registered.

A part of these changes are effective as per the dates below. These include:

- Allowing aggregators of small generating and storage units to provide ancillary services. These changes are effective from 31 March 2023.
- Hybrid systems to use aggregated dispatch conformance (ADC) effective from 08 August 2023.

4.2 High-level changes

Function	Description	Reference
EMMS Data Model v5.3	New data table/s established to record information provided to AEMO.	

Function	Description	Reference
Markets Portal	Potential updates to the Market Info, View offers, Settlements, Offers and submissions web interfaces on the Markets Portal	
API	Update the NEM Bidding APIs	
FTP	Extend the existing capability to support providing additional information required for BDUs.	

For more information on changes for IESS, see **EMMS – Technical Specification – June 2024**.

5 Electricity Data Model 5.3

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

This Release contains the updated details for the Electricity Data Model 5.3. This section describes the affected packages, tables, files, reports, and interfaces.

The Data Model design is in progress and AEMO publishes new versions of this document as the design is finalised.

5.1 Data model changes summary

5.2 Package: SETTLEMENT_CONFIG

Configuration and input data for the Settlements Process

5.2.1 Modified table: ANCILLARY_RECOVERY_SPLIT

Comment	**ANCILLARY_RECOVERY_SPLIT holds the actual customer portion or ACE Portion(Post IESS) for each service and payment type. A single EFFECTIVEDATE/VERSIONNO combination applies to all services (i.e. the latest EFFECTIVEDATE/VERSIONNO is not retrieved for a single service, but applies to a data set).**
Visibility	Public
Data volume	Medium
Trigger	Table trigger that is caused by the Insert or Update of data in the Ancillary Recovery Split.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	EFFECTIVEDATE, PAYMENTTYPE, SERVICE, VERSIONNO

New columns

Field name	Data type	Primary key	Comment
ACE_PORTION	NUMBER(18,8)	No	The percentage value of the recovery funded using the ACE MWh Values. This field is only used for Settlement dates post IESS rule effective date.

5.2.2 Modified table: MARKETFEE

Comment	**MARKETFEE sets out fee type and period for each market fee.**
Visibility	Public
Data volume	Medium

Comment	**MARKETFEE sets out fee type and period for each market fee.**
Trigger	Table trigger that is caused by the Insert or Update of data in the Market fee.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	MARKETFEEID

New columns

Field name	Data type	Primary key	Comment
METER_TYPE	VARCHAR2(20)	No	The Energy Type for the Market Fees Calculation. E.g of Meter Types are CUSTOMER, GENERATOR, NREG, BDU etc. If Meter Type is mentioned as ALL then all the Meter Types for that Participant Category will be used in the Fee calculation
METER_SUBTYPE	VARCHAR2(20)	No	The Meter Sub Type values are ACE, ASOE or ALL. ACE represent ACE_MWH value, ASOE represent ASOE_MWH value and ALL represent sum of ACE_MWh and ASOE_MWh

5.3 Package: SETTLEMENT_DATA

Results from a published Settlements Run. The settlement data and billing run data are updated daily between 6 am and 8 am 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

5.3.1 New table: SET_ENERGY_TRANSACTIONS

Comment	**The Settlement Energy Transactions report contains the Energy Transactions data for all the Participants based on their ACE and ASOE at each customer and generator Connection Point ID. This table is populated only if Settlement Date is post the IESS rule effective date.**
Visibility	Private
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, VERSIONNO, PERIODID, PARTICIPANTID, CONNECTIONPOINTID, METER_TYPE

New columns

Field name	Data type	Primary key	Comment
SETTLEMENTDATE	DATE	Yes	The Settlement Date of the Billing Week
VERSIONNO	NUMBER(3,0)	Yes	The Settlement Run No
PERIODID	NUMBER(3,0)	Yes	The Period ID Identifier
PARTICIPANTID	VARCHAR2(20)	Yes	The Participant Id Identifier
CONNECTIONPOINTID	VARCHAR2(20)	Yes	The Connection Point associated with the Energy Transaction reads.

Field name	Data type	Primary key	Comment
METER_TYPE	VARCHAR2(20)	Yes	The type of meter reads received. Eg Customer, Generator, BDU, NREG etc.
REGIONID	VARCHAR2(20)	No	The NEM Region Id Identifier
RRP	NUMBER(18,8)	No	The Regional Reference Price for the Region
TLF	NUMBER(18,8)	No	The Transmission Loss Factor applied to the Connection Point Id. TLF is calculated based on the Net Flow at the TNI.
CE_MWH	NUMBER(18,8)	No	The Consumed Energy . Energy received in the meter reads (DLF Adjusted)
UFEA_MWH	NUMBER(18,8)	No	The UFE Allocation Amount applied to the Participant
ACE_MWH	NUMBER(18,8)	No	The Adjusted Consumed Energy MWh (CE_MWh + UFEA) for the ConnectionPointId
ASOE_MWH	NUMBER(18,8)	No	The Adjusted Sent Out Energy for the ConnectionPointId . Energy received in the meter reads adjusted by DLF.
ACE_AMOUNT	NUMBER(18,8)	No	The dollar amount for Adjusted Consumed Energy MWh (ACE_MWh * TLF * RRP)
ASOE_AMOUNT	NUMBER(18,8)	No	The dollar amount for Adjusted Sent Out Energy MWh (ASOE_MWh * TLF * RRP)
TOTAL_MWH	NUMBER(18,8)	No	The Total MWh Value for the Participant. ACE_MWh + ASOE_MWh
TOTAL_AMOUNT	NUMBER(18,8)	No	The Total Dollar Value for the Participant. ACE_Amount + ASOE_Amount
CASE_ID	NUMBER(10,0)	No	The Metering Case ID
DME_MWH	NUMBER(18,8)	No	The DME MWh (Distribution Connected) that is used in the UFEA Calculation.
AGGREGATE_READ_FLAG	NUMBER(3,0)	No	The Flag is 1 if the meter data source is from Aggregate Reads Meter Data, Else 0
INDIVIDUAL_READ_FLAG	NUMBER(3,0)	No	The Flag is 1 if the meter data source is from Individual Reads Meter Data, Else 0

Field name	Data type	Primary key	Comment
LASTCHANGED	DATE	No	The Last changed Date time of the record

5.3.2 New table: SET_ENERGY_REGION_SUMMARY

Comment	**The Settlement Energy Region Summary report contains the Energy Transactions Summary for all the NEM regions. This report is produced only for Settlement Date post the IESS rule effective date.**
Visibility	Public
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, VERSIONNO, PERIODID, REGIONID

New columns

Field name	Data type	Primary key	Comment
SETTLEMENTDATE	DATE	Yes	The Settlement Date of the Billing Week
VERSIONNO	NUMBER(3,0)	Yes	The Settlement Run No
PERIODID	NUMBER(3,0)	Yes	The Period ID Identifier
REGIONID	VARCHAR2(20)	Yes	The NEM Region Id Identifier

Field name	Data type	Primary key	Comment
CE_MWH	NUMBER(18,8)	No	The Consumed Energy summary for the Region Id
UFEA_MWH	NUMBER(18,8)	No	The UFEA Energy summary for the Region Id
ACE_MWH	NUMBER(18,8)	No	The Adjusted Consumed Energy summary for the Region Id
ASOE_MWH	NUMBER(18,8)	No	The Adjusted Sent Out Energy summary for the Region Id
ACE_AMOUNT	NUMBER(18,8)	No	The Adjusted Consumed Energy Amount for the Region Id
ASOE_AMOUNT	NUMBER(18,8)	No	The Adjusted Sent Out Energy Amount for the Region Id
TOTAL_MWH	NUMBER(18,8)	No	The Total Energy summary for the Region Id
TOTAL_AMOUNT	NUMBER(18,8)	No	The Total Dollar Amount summary for the Region Id
LASTCHANGED	DATE	No	The Last changed Date time of the record

5.3.3 New table: SET_ENERGY_GENSET_DETAIL

Comment	**The Settlement Energy Genset report contains the Energy Transactions data for each generator meter point. This report is produced only for Settlement Date post the IESS rule effective date.**
Visibility	Private
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, VERSIONNO, PERIODID, STATIONID, DUID, GENSETID

New columns

Field name	Data type	Primary key	Comment
SETTLEMENTDATE	DATE	Yes	The Settlement Date of the Billing Week
VERSIONNO	NUMBER(3,0)	Yes	The Settlement Run No
PERIODID	NUMBER(3,0)	Yes	The Period ID Identifier
PARTICIPANTID	VARCHAR2(20)	No	The Participant Id Identifier
STATIONID	VARCHAR2(20)	Yes	The StationId identifier associated with the GensetId
DUID	VARCHAR2(20)	Yes	The DUID for the meter associated with the GenSetId
GENSETID	VARCHAR2(20)	Yes	The GensetId for the Meter Id received

Field name	Data type	Primary key	Comment
REGIONID	VARCHAR2(20)	No	The Region Id for the Connection Point associated with the DUID
CONNECTIONPOINTID	VARCHAR2(20)	No	The Connection Point associated with the DUID
RRP	NUMBER(18,8)	No	The Regional Reference Price for the Settlement Period
TLF	NUMBER(18,8)	No	The Transmission Loss Factor applied to the Connection Point Id. TLF is calculated based on the Net Flow at the TNI.
METERID	VARCHAR2(20)	No	The Meter ID Identifier (NMI)
CE_MWH	NUMBER(18,8)	No	The Consumed Energy for the Meter Id . Energy received in the meter reads (DLF Adjusted)
UFEA_MWH	NUMBER(18,8)	No	The UFEA allocation amount applied to the Meter Data
ACE_MWH	NUMBER(18,8)	No	The Adjusted Consumed Energy for the Meter Id (CE_MWh + UFEA)
ASOE_MWH	NUMBER(18,8)	No	The Adjusted Sent Out Energy for the Meter Id
TOTAL_MWH	NUMBER(18,8)	No	The Total MWh for the Meter Id (ACE_MWh + ASOE_MWh)
DME_MWH	NUMBER(18,8)	No	The DME MWh value that is used to calculate the UFEA Allocation Amount
ACE_AMOUNT	NUMBER(18,8)	No	The Adjusted Consumed Energy Dollar Amount
ASOE_AMOUNT	NUMBER(18,8)	No	The Adjusted Sent Out Energy Dollar Amount
TOTAL_AMOUNT	NUMBER(18,8)	No	The Total Amount for the Meter Id (ACE_Amount + ASOE_Amount)
LASTCHANGED	DATE	No	The Last changed Date time of the record

5.3.4 Modified table: SETINTRAREGIONRESIDUES

Comment	**The Settlement Intra Region Residues Result.**
Visibility	Public
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, RUNNO, PERIODID, REGIONID

New columns

Field name	Data type	Primary key	Comment
ACE_AMOUNT	NUMBER(18,8)	No	The Adjusted Consumed Energy Dollar Amount for the Region used in the calculation of IRSS (Intra Residue Amount). NULL for Settlement dates prior to the IESS rule effective date.
ASOE_AMOUNT	NUMBER(18,8)	No	The Adjusted Sent Out Energy Dollar Amount for the Region used in the calculation of IRSS (Intra Residue Amount). NULL for Settlement dates prior to the IESS rule effective date.

Modified columns

Comment changes only

Field name	Data type	Primary key	Comment
EP	NUMBER(15,5)	No	Energy payments to generators. NULL for Settlement dates post the IESS rule effective date

Field name	Data type	Primary key	Comment
EC	NUMBER(15,5)	No	Energy purchased by customers. NULL for Settlement dates post the IESS rule effective date

5.3.5 Modified table: SETFCASREGIONRECOVERY

Comment	The FCAS Recovery amount from each NEM Region and the Energy MWh used for the FCAS Recovery calculation from Participants
Visibility	Public
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, VERSIONNO, BIDTYPE, REGIONID, PERIODID

New columns

Field name	Data type	Primary key	Comment
REGION_ACE_MWH	NUMBER(18,8)	No	The Regional ACE MWh value used for the FCAS Recovery. NULL for Settlement dates prior to the IESS rule effective date
REGION_ASOE_MWH	NUMBER(18,8)	No	The Regional ASOE MWh value used for the FCAS Recovery. NULL for Settlement dates prior to the IESS rule effective date
REGIONRECOVERYAMOUNT_ACE	NUMBER(18,8)	No	The Total Dollar Amount for the Region recovered using the ACE MWh Values. NULL for Settlement dates prior to the IESS rule effective date

Field name	Data type	Primary key	Comment
REGIONRECOVERYAMOUNT_ASOE	NUMBER(18,8)	No	The Total Dollar Amount for the Region recovered using the ASOE MWh Values. NULL for Settlement dates prior to the IESS rule effective date
REGIONRECOVERYAMOUNT	NUMBER(18,8)	No	The Total Dollar Amount for the Region (RegionRecoveryAmountACE + RegionRecoveryAmountASOE). NULL for Settlement dates prior to the IESS rule effective date

Modified columns

Comment changes only

Field name	Data type	Primary key	Comment
GENERATORREGIONENERGY	NUMBER(16,6)	No	Generator Regional Energy Amount. NULL for Settlement dates post the IESS rule effective date
CUSTOMERREGIONENERGY	NUMBER(16,6)	No	Customer Region Energy Amount. NULL for Settlement dates post the IESS rule effective date

5.3.6 Modified table: SET_FCAS_RECOVERY

Comment	The SET_FCAS_RECOVERY shows reimbursements for the Frequency Control Ancillary Services (FCAS) to be recovered from participants.
Visibility	Private
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, VERSIONNO, PERIODID, PARTICIPANTID, REGIONID

New columns

Field name	Data type	Primary key	Comment
LOWERREG_ACE	NUMBER(18,8)	No	'The Lower Regulation FCAS Residue Recovery Amount using ACE MWh values excluding the MPF Connection Points. NULL Value for Settlement Dates prior to the IESS rule effective date.
RAISEREG_ACE	NUMBER(18,8)	No	'The Raise Regulation FCAS Residue Recovery Amount using ACE MWh values excluding the MPF Connection Points. NULL Value for Settlement Dates prior to the IESS rule effective date
RAISE1SEC_ACE	NUMBER(18,8)	No	The Raise1Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
RAISE1SEC_ASOE	NUMBER(18,8)	No	The Raise1Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER1SEC_ACE	NUMBER(18,8)	No	The Lower1Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER1SEC_ASOE	NUMBER(18,8)	No	The Lower1Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
RAISE6SEC_ACE	NUMBER(18,8)	No	The Raise6Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.

Field name	Data type	Primary key	Comment
RAISE6SEC_ASOE	NUMBER(18,8)	No	The Raise6Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER6SEC_ACE	NUMBER(18,8)	No	The Lower6Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER6SEC_ASOE	NUMBER(18,8)	No	The Lower6Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
RAISE60SEC_ACE	NUMBER(18,8)	No	The Raise60Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
RAISE60SEC_ASOE	NUMBER(18,8)	No	The Raise60Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER60SEC_ACE	NUMBER(18,8)	No	The Lower60Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER60SEC_ASOE	NUMBER(18,8)	No	The Lower60Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.

Field name	Data type	Primary key	Comment
RAISE5MIN_ACE	NUMBER(18,8)	No	The Raise5Min FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
RAISE5MIN_ASOE	NUMBER(18,8)	No	The Raise5Min FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER5MIN_ACE	NUMBER(18,8)	No	The Lower5Min FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.
LOWER5MIN_ASOE	NUMBER(18,8)	No	The Lower5Min FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Settlement dates prior to the IESS rule effective date.

Modified columns

Comment changes only

Field name	Data type	Primary key	Comment
LOWERREG_RECOVERY	NUMBER(18,8)	No	For Settlement date prior to the IESS rule effective date, the column represent Sum of MPF Lower Regulation recovery amount from Customer Connection Points and the Residue Recovery amount from Customers excluding the MPF Connection Points. For Settlement Date Past IESS Rule Change the column represent the Lower Regulation FCAS MPF Recovery Amount from Customer and Generator Connection Point MPFs only. Residue Recovery Amount is not included in this amount.

Field name	Data type	Primary key	Comment
RAISEREG_RECOVERY	NUMBER(18,8)	No	For Settlement date prior to the IESS rule effective date, the column represent Sum of MPF Raise Regulation recovery amount from Customer Connection Points and the Residue Recovery amount from Customers excluding the MPF Connection Points. For Settlement Date Past IESS Rule Change the column represent the Raise Regulation FCAS MPF Recovery Amount from Customer and Generator Connection Point MPFs only. Residue Recovery Amount is not included in this amount.
LOWER6SEC_RECOVERY	NUMBER(18,8)	No	Recovery amount for the Lower 6 Second service attributable to customer connection points. NULL for Settlement dates post the IESS rule effective date
RAISE6SEC_RECOVERY	NUMBER(18,8)	No	Recovery amount for the Raise 6 Second service attributable to customer connection points. NULL for Settlement dates post the IESS rule effective date
LOWER60SEC_RECOVERY	NUMBER(18,8)	No	Recovery amount for the Lower 60 Second service attributable to customer connection points. NULL for Settlement dates post the IESS rule effective date
RAISE60SEC_RECOVERY	NUMBER(18,8)	No	Recovery amount for the Raise 60 Second service attributable to customer connection points. NULL for Settlement dates post the IESS rule effective date
LOWER5MIN_RECOVERY	NUMBER(18,8)	No	Recovery amount for the Lower 5 Minute service attributable to customer connection points. NULL for Settlement dates post the IESS rule effective date
RAISE5MIN_RECOVERY	NUMBER(18,8)	No	Recovery amount for the Raise 5 Minute service attributable to customer connection points. NULL for Settlement dates post the IESS rule effective date
LOWERREG_RECOVERY_GEN	NUMBER(18,8)	No	For Settlement date prior to the IESS rule effective date, the column represent Sum of MPF Lower Regulation recovery amount from Generator Connection Points. NULL for Settlement dates post the IESS rule effective date
RAISEREG_RECOVERY_GEN	NUMBER(18,8)	No	For Settlement date prior to the IESS rule effective date, the column represent Sum of MPF Raise Regulation recovery amount from Generator Connection Points. NULL for Settlement dates post the IESS rule effective date

Field name	Data type	Primary key	Comment
LOWER6SEC_RECOVERY_GEN	NUMBER(18,8)	No	Recovery amount for the Lower 6 Second service attributable to generator connection points. NULL for Settlement dates post the IESS rule effective date
RAISE6SEC_RECOVERY_GEN	NUMBER(18,8)	No	Recovery amount for the Raise 6 Second service attributable to generator connection points. NULL for Settlement dates post the IESS rule effective date
LOWER60SEC_RECOVERY_GEN	NUMBER(18,8)	No	Recovery amount for the Lower 60 Second service attributable to generator connection points. NULL for Settlement dates post the IESS rule effective date
RAISE60SEC_RECOVERY_GEN	NUMBER(18,8)	No	Recovery amount for the Raise 60 Second service attributable to generator connection points. NULL for Settlement dates post the IESS rule effective date
LOWER5MIN_RECOVERY_GEN	NUMBER(18,8)	No	Recovery amount for the Lower 5 Minute service attributable to generator connection points. NULL for Settlement dates post the IESS rule effective date
RAISE5MIN_RECOVERY_GEN	NUMBER(18,8)	No	Recovery amount for the Raise 5 Minute service attributable to generator connection points NULL for Settlement dates post the IESS rule effective date
RAISE1SEC_RECOVERY	NUMBER(18,8)	No	Customer recovery amount for the very fast raise service. NULL for Settlement dates post the IESS rule effective date
LOWER1SEC_RECOVERY	NUMBER(18,8)	No	Customer recovery amount for the very fast lower service. NULL for Settlement dates post the IESS rule effective date
RAISE1SEC_RECOVERY_GEN	NUMBER(18,8)	No	Generator recovery amount for the very fast raise service. NULL for Settlement dates post the IESS rule effective date
LOWER1SEC_RECOVERY_GEN	NUMBER(18,8)	No	Generator recovery amount for the very fast lower service. NULL for Settlement dates post the IESS rule effective date

5.3.7 Modified table: SETMARKETFEES

Comment	The Settlement Market Fees Amount calculated for each Participant.
Visibility	Private
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, RUNNO, PARTICIPANTID, PERIODID, MARKETFEEID

New columns

Field name	Data type	Primary key	Comment
METER_TYPE	VARCHAR2(20)	NO	The Energy Type for the Market Fees Calculation. E.g of Meter Types are CUSTOMER, GENERATOR, NREG, BDU etc. If Meter Type is mentioned as ALL then all the Meter Types for that Participant Category will be used in the Fee calculation
METER_SUBTYPE	VARCHAR2(20)	NO	The Meter subtype values are ACE, ASOE or ALL. ACE represent ACE_MWH value, ASOE represent ASOE_MWH value and ALL represent sum of ACE_MWh and ASOE_MWh

5.3.8 Modified table: SET_NMAS_RECOVERY

Comment	The Settlement Recovery Amount calculated for the NMAS Services.
Visibility	Private

Comment	The Settlement Recovery Amount calculated for the NMAS Services.
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, VERSIONNO, PERIODID, SERVICE, PAYMENTTYPE, PARTICIPANTID, REGIONID, CONTRACTID

New columns

Field name	Data type	Primary key	Comment
PARTICIPANT_ACE_MWH	NUMBER(18,8)	No	The ACE MWh value for the Participant used in the Recovery Amount Calculation. NULL for Settlement dates prior to the IESS rule effective date.
REGION_ACE_MWH	NUMBER(18,8)	No	The Regional ACE MWh value used in the Recovery Amount Calculation. NULL for Settlement dates prior to the IESS rule effective date.
PARTICIPANT_ASOE_MWH	NUMBER(18,8)	No	The ASOE MWh value for the Participant used in the Recovery Amount Calculation. NULL for Settlement dates prior to the IESS rule effective date.
REGION_ASOE_MWH	NUMBER(18,8)	No	The Regional ASOE MWh value used in the Recovery Amount Calculation. NULL for Settlement dates prior to the IESS rule effective date.
RECOVERYAMOUNT_ACE	NUMBER(18,8)	No	The Recovery dollar amount for the Participant for the NMAS Contract Id calculated using the ACE MWh values for eligible services. NULL for Settlement dates prior to the IESS rule effective date.
RECOVERYAMOUNT_ASOE	NUMBER(18,8)	No	The Recovery dollar amount for the Participant for the NMAS Contract Id calculated using the ASOE_MWh values for eligible services. NULL for Settlement dates prior to the IESS rule effective date.

Modified columns

Comment changes only

Field name	Data type	Primary key	Comment
PARTICIPANT_ENERGY	NUMBER(18,8)	No	The Participant energy in MWh for the period. NULL for Settlement dates post the IESS rule effective date
REGION_ ENERGY	NUMBER(18,8)	No	'The RegionId energy in MWh for the period. NULL Value for Settlement Dates post IESS rule effective date
RECOVERY_AMOUNT	NUMBER(18,8)	No	The Total recovery amount for the period for the PARTICIPANTID and REGIONID. For Settlement dates prior to the IESS rule effective date Sum of RECOVERY_AMOUNT_CUSTOMER + RECOVERY_AMOUNT_GENERATOR and Post IESS it is sum of RECOVERYAMOUNT_ACE + RECOVERYAMOUNT_ASOE.
PARTICIPANT_GENERATION	NUMBER(18,8)	No	Participant Generator Energy in the benefitting region. NULL for Settlement dates post the IESS rule effective date
REGION_ GENERATION	NUMBER(18,8)	No	The generator energy in the benefitting region. NULL for Settlement dates post the IESS rule effective date
RECOVERY_AMOUNT_CUSTOMER	NUMBER(18,8)	No	The recovery amount allocated to customers. NULL for Settlement dates post the IESS rule effective date
RECOVERY AMOUNT_GENERATOR	NUMBER(18,8)	No	The recovery amount allocated to generators. NULL for Settlement dates post the IESS rule effective date

5.3.9 Modified table: SET_RECOVERY_ENERGY

Comment	The Settlement Recovery Energy used in the Recovery Calculation
Visibility	Private
Data volume	Medium
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	SETTLEMENTDATE, SETTLEMENTRUNNO, PARTICIPANTID, REGIONID, PERIODID

New columns

Field name	Data type	Primary key	Comment
ACE_MWH_ACTUAL	NUMBER(18,8)	No	The Actual ACE MWh Value for the Recovery Calculation. NULL for Settlement dates prior to the IESS rule effective date.
ACE_MWH_MPFEX_ACTUAL	NUMBER(18,8)	No	The Actual ACE MWh Value excluding the MPF Connection Points for the Recovery Calculation. This is used only in FCAS Residue Recovery Calculation. NULL for Settlement dates prior to the IESS rule effective date.
ACE_MWH_SUBSTITUTE	NUMBER(18,8)	No	The Substitute ACE MWh Value for the Recovery Calculation. There is no substitute demand post IESS Rule Change. Hence this column will have same value as ACE_MWh_Actual. NULL for Settlement dates prior to the IESS rule effective date.
ACE_MWH_MPFEX_SUBSTITUE	NUMBER(18,8)	No	The Substitute ACE MWh Value excluding the MPF Connection Points for the Recovery Calculation. This is used only in FCAS Residue Recovery Calculation. There is no substitute demand post IESS Rule Change. Hence this column will have same value as ACE_MWh_MPFExActual. NULL for Settlement dates prior to the IESS rule effective date.

Field name	Data type	Primary key	Comment
ASOE_MWH_ACTUAL	NUMBER(18,8)	No	The Actual ASOE MWh Value for the Recovery Calculation. NULL for Settlement dates prior to the IESS rule effective date.
REGION_ACE_MWH_ACTUAL	NUMBER(18,8)	No	The Region total of Actual ACE MWh Value. NULL for Settlement dates prior to the IESS rule effective date.
REGION_ACE_MWH_MPFEX_ACTUAL	NUMBER(18,8)	No	The Region total of Actual ACE MWh Value excluding the MPF Connection Points. NULL for Settlement dates prior to the IESS rule effective date.
REGION_ACE_MWH_SUBST	NUMBER(18,8)	No	The Region total of Substitute ACE MWh Value. NULL for Settlement dates prior to the IESS rule effective date.
REGION_ACE_MWH_MPFEX_SUBST	NUMBER(18,8)	No	The Region total of Substitute ACE MWh Value excluding the MPF Connection Points. NULL for Settlement dates prior to the IESS rule effective date.
REGION_ASOE_MWH_ACTUAL	NUMBER(18,8)	No	The Region total of Actual ASOE MWh Value. NULL for Settlement dates prior to the IESS rule effective date.

Modified columns

Comment changes only

Field name	Data type	Primary key	Comment
CUSTOMERENERGYACTUAL	NUMBER(18,8)	No	Actual Customer Demand. NULL for Settlement dates post the IESS rule effective date.
CUSTOMERENERGYMPFEXACTUAL	NUMBER(18,8)	No	Actual Customer Demand excluding TNIs that have a causer pays MPF. NULL for Settlement dates post the IESS rule effective date.
CUSTOMERENERGYSUBSTITUTE	NUMBER(18,8)	No	Substitute Customer Demand. NULL for Settlement dates post the IESS rule effective date.

Field name	Data type	Primary key	Comment
CUSTOMERENERGYMPFEXSUBSTITUTE	NUMBER(18,8)	No	Substitute Customer Demand excluding TNIs that have a causer pays MPF. NULL for Settlement dates post the IESS rule effective date.
GENERATORENERGYACTUAL	NUMBER(18,8)	No	Actual Generator Output. NULL for Settlement dates post the IESS rule effective date.
REGIONCUSTENERGYACTUAL	NUMBER(18,8)	No	Region Total of Actual Customer Demand. NULL for Settlement dates post the IESS rule effective date.
REGIONCUSTENERGYMPFEXACTUAL	NUMBER(18,8)	No	Region Total of Actual Customer Demand excluding TNIs that have a causer pays MPF. NULL for Settlement dates post the IESS rule effective date.
REGIONCUSTENERGYSUBST	NUMBER(18,8)	No	Region Total of Substitute Customer Demand. NULL for Settlement dates post the IESS rule effective date.
REGIONCUSTENERGYMPFEXSUBST	NUMBER(18,8)	No	Region total of Substitute Customer Demand excluding TNIs that have a causer pays MPF. NULL for Settlement dates post the IESS rule effective date.
REGIONGENENERGYACTUAL	NUMBER(18,8)	No	Region Total of Actual Generator Output. NULL for Settlement dates post the IESS rule effective date.

5.4 Package: BILLING_RUN

Results from a published Billing Run. The settlement data and billing run data are updated daily between 6 am and 8 am 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

Each billing run is uniquely identified by contract year, week no and bill run no

5.4.1 New table: BILLING_ENERGY_TRANSACTIONS

Comment	**The Billing Energy Transactions is the summary of the Settlement Energy Transactions that has the ACE and ASOE MWh and Dollar values that is used for the Statement**
Visibility	Private
Data volume	Medium
Trigger	Populated by the posting of a billing run, being several times each week
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, PARTICIPANTID, CONNECTIONPOINTID, REGIONID

New columns

Field name	Data type	Primary key	Comment
CONTRACTYEAR	NUMBER(4,0)	Yes	The Billing Contract Year
WEEKNO	NUMBER(3,0)	Yes	The Billing WeekNo
BILLRUNNO	NUMBER(4,0)	Yes	The Billing RunNo
PARTICIPANTID	VARCHAR2(20)	Yes	The Participant Id Identifier
CONNECTIONPOINTID	VARCHAR2(20)	Yes	The ConnectionPoint Id for the Billing Aggregation for the Participant Id.
REGIONID	VARCHAR2(20)	Yes	The Region Id Identifier
CE_MWH	NUMBER(18,8)	No	The Consumed Energy MWh Consumed for that Connection Point for the Participant Id in that Billing Week

Field name	Data type	Primary key	Comment
UFEA_MWH	NUMBER(18,8)	No	The UFEA Energy MWh Consumed for that Connection Point for the Participant Id in that Billing Week
ACE_MWH	NUMBER(18,8)	No	The Adjusted Consumed Energy MWh Consumed for that Connection Point for the Participant Id in that Billing Week
ASOE_MWH	NUMBER(18,8)	No	The Adjusted Sent Out Energy MWh Consumed for that Connection Point for the Participant Id in that Billing Week
ACE_AMOUNT	NUMBER(18,8)	No	The Adjusted Consumed Energy Dollar Amount for that Connection Point for the Participant Id in that Billing Week
ASOE_AMOUNT	NUMBER(18,8)	No	The Adjusted Sent Out Energy Dollar Amount for that Connection Point for the Participant Id in that Billing Week
TOTAL_MWH	NUMBER(18,8)	No	The Total MWh(ACE_MWh + ASOE_MWh) for that Connection Point for the Participant Id in that Billing Week
TOTAL_AMOUNT	NUMBER(18,8)	No	The Total Amount(ACE_Amount + ASOE_Amount) for that Connection Point for the Participant Id in that Billing Week
DME_MWH	NUMBER(18,8)	No	The DME MWh for that Connection Point for the Participant Id in that Billing Week. This is the MWh value that is used for the UFEA Allocation.
LASTCHANGED	DATE	No	The Last Changed date time for the record

5.4.2 New table: BILLING_ENERGY_GENSET_DETAIL

Comment	**The Billing Energy Genset report contains the Genset Energy detail summary for the Billing Week data**
Visibility	Private
Data volume	Medium

Comment	**The Billing Energy Genset report contains the Genset Energy detail summary for the Billing Week data**
Trigger	Daily Billing Run & Posting a PRELIM/FINAL and REVISE Billing Run
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, PARTICIPANTID, STATIONID, DUID, GENSETID, REGIONID, CONNECTIONPOINTID, METERID

New columns

Field name	Data type	Primary key	Comment
CONTRACTYEAR	NUMBER(4,0)	Yes	The Billing Contract Year
WEEKNO	NUMBER(3,0)	Yes	The Billing Week No
BILLRUNNO	NUMBER(4,0)	Yes	The Billing Run No
PARTICIPANTID	VARCHAR2(20)	No	The Participant Id Identifier
STATIONID	VARCHAR2(20)	Yes	The StationId identifier associated with the GensetId
DUID	VARCHAR2(20)	Yes	The DUID for the meter associated with the GensetId
GENSETID	VARCHAR2(20)	Yes	The GensetId for the Meter Id received
REGIONID	VARCHAR2(20)	No	The Region Id for the Connection Point associated with the DUID
CONNECTIONPOINTID	VARCHAR2(20)	No	The Connection Point associated with the DUID
METERID	VARCHAR2(20)	No	The Meter ID Identifier (NMI)

Field name	Data type	Primary key	Comment
CE_MWH	NUMBER(18,8)	No	The Consumed Energy for the Meter Id . Energy received in the meter reads (DLF Adjusted) in that Billing Week
UFEA_MWH	NUMBER(18,8)	No	The UFEA Energy MWh Consumed for that Connection Point for the Participant Id in that Billing Week
ACE_MWH	NUMBER(18,8)	No	The Adjusted Consumed Energy MWh Consumed for that Connection Point for the Participant Id in that Billing Week
ASOE_MWH	NUMBER(18,8)	No	The Adjusted Sent Out Energy MWh Consumed for that Connection Point for the Participant Id in that Billing Week
TOTAL_MWH	NUMBER(18,8)	No	The Total MWh(ACE_MWh + ASOE_MWh) for that Connection Point for the Participant Id in that Billing Week
DME_MWH	NUMBER(18,8)	No	The DME MWh for that Connection Point for the Participant Id in that Billing Week. This is the MWh value that is used for the UFEA Allocation
ACE_AMOUNT	NUMBER(18,8)	No	The Adjusted Consumed Energy Dollar Amount for that Connection Point for the Participant Id in that Billing Week
ASOE_AMOUNT	NUMBER(18,8)	No	The Adjusted Sent Out Energy Dollar Amount for that Connection Point for the Participant Id in that Billing Week
TOTAL_AMOUNT	NUMBER(18,8)	No	The Total Amount(ACE_Amount + ASOE_Amount) for that Connection Point for the Participant Id in that Billing Week
LASTCHANGED	DATE	No	The Last changed date time for the record

5.4.3 Modified table: BILLING_APC_RECOVERY

Comment	**Billing APC Recovery table has the details of the APC Event Recovery amounts from the Participants based on their ACE MWh values. All the Participants with ACE MWh value are present in this table.**
Visibility	Private
Data volume	Small
Trigger	Populated by the posting of a billing run, being several times each week
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, APEVENTID, CLAIMID, PARTICIPANTID, REGIONID

New columns

Field name	Data type	Primary key	Comment
PARTICIPANT_ACE_MWH	NUMBER(18,8)	No	The ACE MWh value of the participant from the Eligibility Interval used for the APC Recovery Calculation. If the Billing Week is prior to the IESS rule effective date, then value is NULL.
REGION_ACE_MWH	NUMBER(18,8)	No	The ACE MWh value of the Region from the Eligibility Interval used for the APC Recovery Calculation. This is the sum of the ACE MWh of all the participants in that recovery. If the Billing Week is prior to the IESS rule effective date, then value is NULL.

5.4.4 Modified table: BILLINGASRECOVERY

Comment	**BILLINGASRECOVERY table is the aggregation of Ancillary Services Recovery Amount data including FCAS and NMAS**
Visibility	Private

Comment	**BILLINGASRECOVERY table is the aggregation of Ancillary Services Recovery Amount data including FCAS and NMAS**
Data volume	Medium
Trigger	Populated by the posting of a billing run, being several times each week
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, PARTICIPANTID, REGIONID

New columns

Field name	Data type	Primary key	Comment
LOWERREG_ACE	NUMBER(18,8)	No	The Lower Regulation FCAS Residue Recovery Amount using ACE MWh values. NULL for Billing week prior to the IESS rule effective date.
RAISEREG_ACE	NUMBER(18,8)	No	The Raise Regulation FCAS Residue Recovery Amount using ACE MWh values. NULL for Billing week prior to the IESS rule effective date.
RAISE1SEC_ACE	NUMBER(18,8)	No	The Raise1Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
RAISE1SEC_ASOE	NUMBER(18,8)	No	The Raise1Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOWER1SEC_ACE	NUMBER(18,8)	No	The Lower1Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOWER1SEC_ASOE	NUMBER(18,8)	No	The Lower1Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.

Field name	Data type	Primary key	Comment
RAISE6SEC_ACE	NUMBER(18,8)	No	The Raise6Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
RAISE6SEC_ASOE	NUMBER(18,8)	No	The Raise6Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOWER6SEC_ACE	NUMBER(18,8)	No	The Lower6Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOWER6SEC_ASOE	NUMBER(18,8)	No	The Lower6Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
RAISE60SEC_ACE	NUMBER(18,8)	No	The Raise60Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
RAISE60SEC_ASOE	NUMBER(18,8)	No	The Raise60Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOWER60SEC_ACE	NUMBER(18,8)	No	The Lower60Sec FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOWER60SEC_ASOE	NUMBER(18,8)	No	The Lower60Sec FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
RAISE5MIN_ACE	NUMBER(18,8)	No	The Raise5Min FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
RAISE5MIN_ASOE	NUMBER(18,8)	No	The Raise5Min FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOWER5MIN_ACE	NUMBER(18,8)	No	The Lower5Min FCAS Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.

Field name	Data type	Primary key	Comment
LOWER5MIN_ASOE	NUMBER(18,8)	No	The Lower5Min FCAS Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
REACTIVEPOWER_ACE	NUMBER(18,8)	No	The Reactive Power Ancillary Service Recovery Amount for for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
REACTIVEPOWER_ASOE	NUMBER(18,8)	No	The Reactive Power Ancillary Service Recovery Amount for for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOADSHED_ACE	NUMBER(18,8)	No	The Load Shed Ancillary Service Recovery Amount for for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
LOADSHED_ASOE	NUMBER(18,8)	No	The Load Shed Ancillary Service Recovery Amount for for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
SYSTEMRESTART_ACE	NUMBER(18,8)	No	The System Restart Ancillary Service Recovery Amount for for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
SYSTEMRESTART_ASOE	NUMBER(18,8)	No	The System Restart Ancillary Service Recovery Amount for for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
AVAILABILITY_REACTIVE_ACE	NUMBER(18,8)	No	The Reactive Power Ancillary Service Availability Payment Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
AVAILABILITY_REACTIVE_ASOE	NUMBER(18,8)	No	The Reactive Power Ancillary Service Availability Payment Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.
AVAILABILITY_REACTIVE_RBT_ACE	NUMBER(18,8)	No	The Reactive Power Ancillary Service Availability Rebate Payment Recovery Amount for the Participant and Region from ACE MWh Portion. NULL for Billing week prior to the IESS rule effective date.

Field name	Data type	Primary key	Comment
AVAILABILITY_REACTIVE_RBT_ASOE	NUMBER(18,8)	No	The Reactive Power Ancillary Service Availability Rebate Payment Recovery Amount for the Participant and Region from ASOE MWh Portion. NULL for Billing week prior to the IESS rule effective date.

Modified columns

Comment changes only

Field name	Data type	Primary key	Comment
LOWERREG	NUMBER(18,8)	No	Pre-IESS - Recovery amount for the Lower Regulation service attributable to customer connection points(MPF + Residue). Post-IESS the amount in this column represent only the Lower Regulation FCAS MPF Recovery Amount from Customer and Generator Connection Point MPFs, no Residue Amounts are added to this column value.
RAISEREG	NUMBER(18,8)	No	Pre-IESS - Recovery amount for the Raise Regulation service attributable to customer connection points(MPF + Residue). Post-IESS the amount in this column represent only the Raise Regulation FCAS MPF Recovery Amount from Customer and Generator Connection Point MPFs, no Residue Amounts are added to this column value.
RAISE6SEC	NUMBER(15,5)	No	Raise 6 Sec Recovery. NULL for Billing Week post the IESS rule effective date
LOWER6SEC	NUMBER(15,5)	No	Lower 6 Sec Recovery. NULL for Billing Week post the IESS rule effective date
RAISE60SEC	NUMBER(15,5)	No	Raise 60 Sec Recovery. NULL for Billing Week post the IESS rule effective date
LOWER60SEC	NUMBER(15,5)	No	Lower 60 Sec Recovery. NULL for Billing Week post the IESS rule effective date
LOWER60SEC	NUMBER(15,5)	No	Lower 60 Sec Recovery. NULL for Billing Week post the IESS rule effective date

Field name	Data type	Primary key	Comment
LOADSHED	NUMBER(15,5)	No	Load Shed Recovery. Post-IESS the value in this column only represent the Testing Payment Recovery from Customers. 0 if no testing payment exists.
REACTIVEPOWER	NUMBER(15,5)	No	Reactive Power Recovery. Post-IESS the value in this column only represent the Testing Payment Recovery from Customers. 0 if no testing payment exists.
SYSTEMRESTART	NUMBER(15,5)	No	System Restart Recovery. Post-IESS the value in this column only represent the Testing Payment Recovery from Customers. 0 if no testing payment exists
RAISE6SEC_GEN	NUMBER(15,5)	No	Raise 6 Sec Recovery for Generator. NULL for Billing Week post the IESS rule effective date
LOWER6SEC_GEN	NUMBER(15,5)	No	Lower 6 Sec Recovery for Generator. NULL for Billing Week post the IESS rule effective date
RAISE60SEC_GEN	NUMBER(15,5)	No	Raise 60 Sec Recovery for Generator. NULL for Billing Week post the IESS rule effective date
LOWER60SEC_GEN	NUMBER(15,5)	No	Lower 60 Sec Recovery for Generator. NULL for Billing Week post the IESS rule effective date
LOADSHED_GEN	NUMBER(15,5)	No	Load Shed Recovery for Generator. Post-IESS the value in this column only represent the Testing Payment Recovery from Generators. 0 if no testing payment exists.
REACTIVEPOWER_GEN	NUMBER(15,5)	No	Reactive Power Recovery for Generator. Post-IESS the value in this column only represent the Testing Payment Recovery from Generators. 0 if no testing payment exists.
SYSTEMRESTART_GEN	NUMBER(15,5)	No	System Restart Recovery for Generator. Post-IESS the value in this column only represent the Testing Payment Recovery from Generators. 0 if no testing payment exists.
LOWER5MIN	NUMBER(15,5)	No	Recovery amount for the Lower 5 Minute service attributable to customer connection points. NULL for Billing Week post the IESS rule effective date
RAISE5MIN	NUMBER(15,5)	No	Recovery amount for the Raise 5 Minute service attributable to customer connection points. NULL for Billing Week post the IESS rule effective date

Field name	Data type	Primary key	Comment
LOWER5MIN_GEN	NUMBER(16,6)	No	Recovery amount for the Lower 5 Minute service attributable to generator connection points. NULL for Billing Week post the IESS rule effective date
RAISE5MIN_GEN	NUMBER(16,6)	No	Recovery amount for the Raise 5 Minute service attributable to generator connection points. NULL for Billing Week post the IESS rule effective date
LOWERREG_GEN	NUMBER(16,6)	No	Recovery amount for the Lower Regulation service attributable to generator connection points. NULL for Billing Week post the IESS rule effective date
RAISEREG_GEN	NUMBER(16,6)	No	Recovery amount for the Raise Regulation Second service attributable to generator connection points. NULL for Billing Week post the IESS rule effective date. NULL for Billing Week post the IESS rule effective date
AVAILABILITY_REACTIVE	NUMBER(18,8)	No	The total availability payment recovery amount (customer).. NULL for Billing Week post the IESS rule effective date
AVAILABILITY_REACTIVE_RBT	NUMBER(18,8)	No	The total availability payment rebate recovery amount (customer).. NULL for Billing Week post the IESS rule effective date
AVAILABILITY_REACTIVE_GEN	NUMBER(18,8)	No	The total availability payment recovery amount (Generator).. NULL for Billing Week post the IESS rule effective date
AVAILABILITY_REACTIVE_RBT_GEN	NUMBER(18,8)	No	The total availability payment rebate recovery amount (Generator).. NULL for Billing Week post the IESS rule effective date
RAISE1SEC	NUMBER(18,8)	No	Customer recovery amount for the very fast raise service. NULL for Billing Week post the IESS rule effective date
LOWER1SEC	NUMBER(18,8)	No	Customer recovery amount for the very fast lower service. NULL for Billing Week post the IESS rule effective date
RAISE1SEC_GEN	NUMBER(18,8)	No	Generator recovery amount for the very fast raise service. NULL for Billing Week post the IESS rule effective date

Field name	Data type	Primary key	Comment
LOWER1SEC_GEN	NUMBER(18,8)	No	Generator recovery amount for the very fast lower service. NULL for Billing Week post the IESS rule effective date

5.4.5 Modified table: BILLING_DAILY_ENERGY_SUMMARY

Comment	**BILLING_DAILY_ENERGY_SUMMARY shows the summary of the Settlement Energy Values on a DAILY basis for that Billing Week for each Participant and Region**
Visibility	Private
Data volume	Medium
Trigger	Populated by the posting of a billing run, being several times each week
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, SETTLEMENTDATE, PARTICIPANTID, REGIONID

New columns

Field name	Data type	Primary key	Comment
CE_MWH	NUMBER(18,8)	No	The Sum of CE MWh value for the Participant and region for the Settlement Date. NULL for Billing Week prior to the IESS rule effective date
UFEA_MWH	NUMBER(18,8)	No	The Sum of UFEA MWh value for the Participant and region for the Settlement Date. NULL for Billing Week prior to the IESS rule effective date

Field name	Data type	Primary key	Comment
ACE_MWH	NUMBER(18,8)	No	The Sum of ACE MWh value for the Participant and region for the Settlement Date. NULL for Billing Week prior to the IESS rule effective date
ASOE_MWH	NUMBER(18,8)	No	The Sum of ASOE MWh value for the Participant and region for the Settlement Date
ACE_AMOUNT	NUMBER(18,8)	No	The Sum of ACE Amount value for the Participant and region for the Settlement Date
ASOE_AMOUNT	NUMBER(18,8)	No	The Sum of ASOE Amount value for the Participant and region for the Settlement Date
TOTAL_MWH	NUMBER(18,8)	No	The Sum of Total MWh value for the Participant and region for the Settlement Date. NULL for Billing Week prior to the IESS rule effective date
TOTAL_AMOUNT	NUMBER(18,8)	No	The Sum of Total Amount for the Participant and region for the Settlement Date. NULL for Billing Week prior to the IESS rule effective date

Modified columns

Comment Changes Only

Field name	Data type	Primary key	Comment
CUSTOMER_ENERGY_PURCHASED	NUMBER(18,8)	No	Customer energy amount purchased on this settlement day by the participant in the region. NULL for Billing Week post the IESS rule effective date.
GENERATOR_ENERGY_SOLD	NUMBER(18,8)	No	Generator energy amount sold on this settlement day by the participant in the region. NULL for Billing Week post the IESS rule effective date.
GENERATOR_ENERGY_PURCHASED	NUMBER(18,8)	No	Generator energy amount purchased on this settlement day by the participant in the region. NULL for Billing Week post the IESS rule effective date.

5.4.6 Modified table: BILLING_DIRECTION_RECON_OTHER

Comment	**BILLING DIRECTION RECON OTHER shows the Direction Reconciliation Data**
Visibility	Public
Data volume	Medium
Trigger	Populated by the posting of a billing run, being several times each week
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, DIRECTION_ID, REGIONID

New columns

Field name	Data type	Primary key	Comment
REGION_ACE_MWH	NUMBER(18,8)	No	The Sum of ACE MWh value for the Region used in the Direction Recovery Calculation
REGION_ASOE_MWH	NUMBER(18,8)	No	The Sum of ASOE MWh value for the Region used in the Direction Recovery Calculation
DIRECTION_SERVICE_ID	VARCHAR2(20)	No	The Direction Service ID associated with the Direction Type ID. Eg For FCAS Direction Type, Direction Service could be any contingency service.

Modified columns

Comment Changes Only

Field name	Data type	Primary key	Comment
REGIONAL_CUSTOMER_ENERGY	NUMBER(18,8)	No	The total customer energy for this region, over the duration of the direction. NULL for Billing Week post the IESS rule effective date.
REGIONAL_GENERATOR_ENERGY	NUMBER(18,8)	No	The total generator energy for this region, over the duration of the direction. NULL for Billing Week post the IESS rule effective date.

5.4.7 Modified table: BILLRESERVETRADERRECOVERY

Comment	**BILLINGRESERVETRADERRECOVERY is the Reserve Trader (RERT) Recovery Amounts from Participants based on their ACE MWh Values**
Visibility	Private
Data volume	Small
Trigger	Populated by the posting of a billing run, being several times each week
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, REGIONID, PARTICIPANTID, PUBLICATION_ID, PAYMENT_ID

New columns

Field name	Data type	Primary key	Comment
PARTICIPANT_ACE_MWH	NUMBER(18,8)	No	The Participant ACE MWh Value used in the Recovery of the RERT Amount
REGION_ACE_MWH	NUMBER(18,8)	No	The Region ACE MWh Value used in the Recovery of the RERT Amount

Modified columns

Comment Changes Only

Field name	Data type	Primary key	Comment
PARTICIPANT_DEMAND	NUMBER(18,8)	No	Participant Demand Value used for RERT Recovery. NULL for Billing Week post the IESS rule effective date.
REGION_DEMAND	NUMBER(18,8)	No	Region Demand Value used for RERT Recovery. NULL for Billing Week post the IESS rule effective date.

5.4.8 Modified table: BILLING_NMAS_TST_RECOVERY

Comment	**BILLING NMAS TST RECOVERY shows the NMAS Testing Payment Recovery amounts**
Visibility	Private
Data volume	Medium
Trigger	Populated by the posting of a billing run, being several times each week
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONTRACTYEAR, WEEKNO, BILLRUNNO, SERVICE, PARTICIPANTID, REGIONID, CONTRACTID

New columns

Field name	Data type	Primary key	Comment
PARTICIPANT_ACE_MWH	NUMBER(18,8)	No	The Participant ACE MWh Value used in the Recovery of the Testing Payment Amount if the service is recovered from ACE. NULL for Billing Week prior to the IESS rule effective date

Field name	Data type	Primary key	Comment
REGION_ACE_MWH	NUMBER(18,8)	No	The Region ACE MWh Value used in the Recovery of the Testing Payment Amount if the service is recovered from ACE. NULL for Billing Week prior to the IESS rule effective date
ACE_PORTION	NUMBER(18,8)	No	The Portion of ACE MWh Value used in the Recovery Calculation. NULL for Billing Week prior to the IESS rule effective date
ASOE_PORTION	NUMBER(18,8)	No	The Portion of ASOE MWh Value used in the Recovery Calculation (100 - ACE_Portion). NULL for Billing Week prior to the IESS rule effective date
PARTICIPANT_ASOE_MWH	NUMBER(18,8)	No	The Participant ASOE MWh Value used in the Recovery of the Testing Payment Amount if the service is recovered from ASOE. NULL for Billing Week prior to the IESS rule effective date
REGION_ASOE_MWH	NUMBER(18,8)	No	The Region ASOE MWh Value used in the Recovery of the Testing Payment Amount if the service is recovered from ASOE. NULL for Billing Week prior to the IESS rule effective date
RECOVERYAMOUNT_ACE	NUMBER(18,8)	No	The Participant Recovery Amount based on ACE MWh Value if the service is recovered from ACE. NULL for Billing Week prior to the IESS rule effective date
RECOVERYAMOUNT_ASOE	NUMBER(18,8)	No	The Participant Recovery Amount based on ASOE MWh Value if the service is recovered from ASOE. NULL for Billing Week prior to the IESS rule effective date

Modified columns

Comment Changes Only

Field name	Data type	Primary key	Comment
RECOVERY_AMOUNT	NUMBER(18,8)	No	The Total recovery amount for the billing week, being the sum of the customer and generator proportions for the PARTICIPANTID in REGIONID and sum of RecoveryAmount_ACE and RecoveryAmount_ASOE.

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

5.5.1 Modified table: PDPASA_REGIONSOLUTION

Comment	The PDPASA region solution data
Visibility	Public
Data volume	Medium
Trigger	PDPASA_REGIONSOLUTION is updated each PDPASA run (i.e. half-hourly)
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	INTERVAL_DATETIME, REGIONID, RUN_DATETIME, RUNTYPE

Modified columns

Comment changes only.

Field name	Data type	Primary key	Comment
SEMISCHEDULEDCAPACITY	NUMBER(12,2)	No	Constrained generation forecast for semi-scheduled units for the region. For RELIABILITY_LRC run semi-scheduled generation is constrained only by System Normal constraints. For OUTAGE_LRC run and LOR run semi-scheduled generation is constrained by both System Normal and Outage constraints. All three run types (RELIABILITY_LRC, OUTAGE_LRC, LOR) incorporate MAXAVAIL limits.
LOR_ SEMISCHEDULEDCAPACITY	NUMBER(15,5)	No	Constrained generation forecast for semi-scheduled units for the region for the LOR run. Semi-scheduled generation is constrained by both System Normal, Outage constraints, and incorporate MAXAVAIL limits.
AGGREGATEPASAAVAILABILITY	NUMBER(12,0)	No	Sum of PASAAVAILABILITY for all scheduled generating units and the Unconstrained Intermittent Generation Forecasts (UIGF) for all semi-scheduled generating units in a given Region for a given PERIODID. For the RELIABILITY_LRC and OUTAGE_LRC runs, UIGF is the POE90 forecast. For the LOR run, UIGF is the POE50 forecast

5.6 Package: STPASA_SOLUTION

Results from a published Short Term PASA run

5.6.1 Modified table: STPASA_REGIONSOLUTION

Comment changes only.

Comment	**STPASA_REGIONSOLUTION shows the results of the regional capacity, maximum surplus reserve and maximum spare capacity evaluations for each period of the study.**
Visibility	Public
Data volume	Large

Comment	**STPASA_REGIONSOLUTION shows the results of the regional capacity, maximum surplus reserve and maximum spare capacity evaluations for each period of the study.**
Trigger	STPASA_REGIONSOLUTION is updated each STPASA run (approximately every 2 hours)
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	INTERVAL_DATETIME, REGIONID, RUN_DATETIME, RUNTYPE

Modified columns

Field name	Data type	Primary key	Comment
SEMISCHEDULEDCAPACITY	NUMBER(15,5)	No	Constrained generation forecast for semi-scheduled units for the region. For RELIABILITY_LRC run semi-scheduled generation is constrained only by System Normal constraints. For OUTAGE_LRC run and LOR run semi-scheduled generation is constrained by both System Normal and Outage constraints. All three run types (RELIABILITY_LRC, OUTAGE_LRC, LOR) incorporate MAXAVAIL limits.
LOR_ SEMISCHEDULEDCAPACITY	NUMBER(15,5)	No	Constrained generation forecast for semi-scheduled units for the region for the LOR run type. Semi-scheduled generation is constrained by both System Normal, Outage constraints, and incorporate MAXAVAIL limits.
AGGREGATEPASAAVAILABILITY	NUMBER(12,0)	No	Sum of PASAAVAILABILITY for all scheduled generating units and the Unconstrained Intermittent Generation Forecasts (UIGF) for all semi-scheduled generating units in a given Region for a given PERIODID. For the RELIABILITY_LRC and OUTAGE_LRC runs, UIGF is the POE90 forecast. For the LOR run, UIGF is the POE50 forecast

5.7 Package: PARTICIPANT_REGISTRATION

Participant registration data

5.7.1 Modified table: DUDETAIL

Comment	**DUDETAIL sets out a records specific details for each unit including start type and whether normally on or off load. Much of this data is information only and is not used in dispatch or settlements.**
Visibility	Public
Data volume	Medium
Trigger	DUDETAIL updates only when registration details change.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	DUID, EFFECTIVEDATE, VERSIONNO

New columns

Field name	Data type	Primary key	Comment
MINCAPACITY	NUMBER(6,0)	No	Minimum capacity only for load side of BDU, otherwise 0 (MW)
REGISTEREDMINCAPACITY	NUMBER(6,0)	No	Registered minimum capacity only for load side of BDU, otherwise 0 (MW)
MAXRATEOFCHANGEUP_LOAD	NUMBER(6,0)	No	Raise Ramp rate applied to BDU Load component (MW/min)
MAXRATEOFCHANGEDOWN_LOAD	NUMBER(6,0)	No	Lower Ramp rate applied to BDU Load component (MW/min)

Field name	Data type	Primary key	Comment
MAXSTORAGECAPACITY	NUMBER(15,5)	No	The rated storage capacity (MWh),),information only'
STORAGEIMPORTEFFICIENCYFACTOR	NUMBER(15,5)	No	The storage energy import conversion efficiency. Number from 0 to 1 where 1 is lossless. Calculated as (increase in stored energy / increase in imported energy)
STORAGEEXPORTEFFICIENCYFACTOR	NUMBER(15,5)	No	The storage energy export conversion efficiency. Number from 0 to 1 where 1 is lossless. Calculated as (decrease in exported energy / decrease in stored energy)
MIN_RAMP_RATE_UP	NUMBER(6,0)	No	Calculated Minimum Ramp Rate Up value accepted for Energy Offers or Bids with explanation for energy imports (all DUID types and BDU Generation side) (MW/min)
MIN_RAMP_RATE_DOWN	NUMBER(6,0)	No	Calculated Minimum Ramp Rate Down value accepted for Energy Offers or Bids with explanation for energy imports (all DUID types and BDU Generation side) (MW/min)
LOAD_MIN_RAMP_RATE_UP	NUMBER(6,0)	No	Calculated Minimum Ramp Rate Up value accepted for Energy Offers or Bids on BDU Load component with explanation for energy imports (MW/min)
LOAD_MIN_RAMP_RATE_DOWN	NUMBER(6,0)	No	Calculated Minimum Ramp Rate Down value accepted for Energy Offers or Bids on BDU Load component with explanation for energy imports (MW/min)

Modified columns

Comment change only

Field name	Data type	Primary key	Comment
DISPATCHTYPE	VARCHAR2(20)	No	Identifies LOAD, GENERATOR or BIDIRECTIONAL

5.7.2 Modified table: GENUNITS

Comment	GENUNITS shows Genset details for each physical unit with the relevant station.
Visibility	Public
Data volume	Medium
Trigger	GENUNITS updates whenever plant details change.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	GENSETID

New columns

Field name	Data type	Primary key	Comment
MINCAPACITY	NUMBER(6,0)	No	Minimum capacity only for load side of BDU, otherwise 0 (MW)
REGISTEREDMINCAPACITY	NUMBER(6,0)	No	Registered minimum capacity only for load side of BDU, otherwise 0 (MW)
MAXSTORAGECAPACITY	NUMBER(15,5)	No	The rated storage capacity (MWh), information only

5.7.3 Modified table: GENUNITS_UNIT

Comment	Physical units within a Gen Unit Set
Visibility	Public
Data volume	Medium

Comment	Physical units within a Gen Unit Set
Trigger	GENUNITS_UNIT updates whenever plant details change.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	EFFECTIVEDATE, GENSETID, UNIT_GROUPING_LABEL, VERSIONNO

New columns

Field name	Data type	Primary key	Comment
UNITMINSIZE	NUMBER(8,3)	No	Only applicable for the LOAD side of BDU (MW)
MAXSTORAGECAPACITY	NUMBER(15,5)	No	The rated storage capacity (MWh), information only
REGISTEREDCAPACITY	NUMBER(8,3)	No	Registered capacity for normal operations
REGISTEREDMINCAPACITY	NUMBER(8,3)	No	Only applicable for the LOAD side of BDU (MW)

5.7.4 Modified table: DUDETAILSUMMARY

Comment	DUDETAILSUMMARY sets out a single summary unit table so reducing the need for participants to use the various dispatchable unit detail and owner tables to establish generating unit specific details.
Visibility	Public
Data volume	Medium
Trigger	DUDETAILSUMMARY updates only when registration details change.

Comment	**DUDETAILSUMMARY sets out a single summary unit table so reducing the need for participants to use the various dispatchable unit detail and owner tables to establish generating unit specific details.**
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	DUID, START_DATE

New columns

Field name	Data type	Primary key	Comment
LOAD_MINIMUM_ENERGY_PRICE	NUMBER(9,2)	No	BDU only. Floored Offer/Bid Energy Price adjusted for TLF, DLF and MPF for energy imports
LOAD_MAXIMUM_ENERGY_PRICE	NUMBER(9,2)	No	BDU only. Capped Offer/Bid Energy Price adjusted for TLF, DLF and VoLL for energy imports
LOAD_MIN_RAMP_RATE_UP	NUMBER(6,0)	No	BDU only. MW/Min. Calculated Minimum Ramp Rate Up value accepted for Energy Offers or Bids with explanation for energy imports
LOAD_MIN_RAMP_RATE_DOWN	NUMBER(6,0)	No	BDU only. MW/Min. Calculated Minimum Ramp Rate Down value accepted for Energy Offers or Bids with explanation for energy imports
LOAD_MAX_RAMP_RATE_UP	NUMBER(6,0)	No	BDU only. MW/Min. Registered Maximum Ramp Rate Up value accepted for Energy Offers or Bids for energy imports
LOAD_MAX_RAMP_RATE_DOWN	NUMBER(6,0)	No	BDU only. MW/Min. Registered Maximum Ramp Rate Down value accepted for Energy Offers or Bids for energy imports
SECONDARY_TLF	NUMBER(18,8)	No	Used in Bidding, Dispatch and Settlements, only populated where Dual TLFs apply. For Bidding and Dispatch, the TLF for the generation component of a BDU, when null the TRANSMISSIONLOSSFACTOR is used for both the load and generation components. For Settlements, the secondary TLF is applied to all energy (load and generation) when the Net Energy Flow of the ConnectionPointID in the interval is positive (net generation).

Modified columns

Comment change only

Field name	Data type	Primary key	Comment
ADG_ID	VARCHAR2(20)	No	Aggregate Dispatch Group. Group into which the DUID is aggregated for Conformance. Null if DUID not aggregated for Conformance
TRANSMISSION LOSSFACTOR	NUMBER(15,5)	No	Used in Bidding, Dispatch and Settlements. For Bidding and Dispatch, where the DUID is a BDU with DISPATCHTYPE of BIDIRECTIONAL, the TLF for the load component of the BDU. For Settlements, where dual TLFs apply, the primary TLF is applied to all energy (load and generation) when the Net Energy Flow of the ConnectionPointID in the interval is negative (net load).

5.7.5 Modified table: DISPATCHABLEUNIT

Comment	DISPATCHABLEUNIT sets out the unit name and type of each dispatchable unit in the market.
Visibility	Public
Data volume	Medium
Trigger	DISPATCHABLEUNIT pdates as new units added or names changed.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	DUID

Modified column

Comment change only

Field name	Data type	Primary key	Comment
UNITTYPE	VARCHAR2(20)	No	Identifies LOAD, GENERATOR or BIDIRECTIONAL

5.8 Package: MARKET_CONFIG

Standing data for the market

5.8.1 New table: FCAS_REGU_USAGE_FACTORS_TRK

Comment	**Stores the proportion of enabled regulation FCAS dispatch that is typically consumed for frequency regulation. Used to calculate the projected state of charge for energy storage systems.**
Visibility	Public
Data volume	Medium
Trigger	FCAS_REGU_USAGE_FACTORS updates whenever FCAS_REGU_USAGE_FACTORS data is updated.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	EFFECTIVEDATE,VERSIONNO

New columns

Field name	Data type	Primary key	Comment
EFFECTIVEDATE	DATE	Yes	The effective date for this regulation FCAS usage factor

Field name	Data type	Primary key	Comment
VERSIONNO	NUMBER(3,0)	Yes	Version of the date with respect to effective date
AUTHORISEDDATE	DATE	No	The date time that this set of usage factors was authorised
LASTCHANGED	DATE	No	The last time the data has been changed/updated

5.8.2 New table: FCAS_REGU_USAGE_FACTORS

Comment	**Stores the proportion of enabled regulation FCAS dispatch that is typically consumed for frequency regulation. Used to calculate the projected state of charge for energy storage systems.**
Visibility	Public
Data volume	Medium
Trigger	FCAS_REGU_USAGE_FACTORS updates whenever FCAS_REGU_USAGE_FACTORS data is updated.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	EFFECTIVEDATE,VERSIONNO,REGIONID,BIDTYPE,PERIODID

New columns

Field name	Data type	Primary key	Comment
EFFECTIVEDATE	DATE	Yes	The effective date for this regulation FCAS usage factor
VERSIONNO	NUMBER(3,0)	Yes	Version with respect to effective date

Field name	Data type	Primary key	Comment
REGIONID	VARCHAR2(20)	Yes	Unique RegionID
BIDTYPE	VARCHAR2(20)	Yes	The type of regulation FCAS service [RAISEREG,LOWERREG]
PERIODID	NUMBER(3,0)	Yes	The Period ID (1 - 48) within the calendar day to which this usage factor applies
USAGE_FACTOR	NUMBER(8,3)	No	The proportion of cleared regulation FCAS that is assumed to be used within a dispatch interval. Expressed as a fractional amount between 0 and 1
LASTCHANGED	DATE	No	The last time the data has been changed/updated

5.8.3 Modified table: TRANSMISSIONLOSSFACTOR

Comment	TRANSMISSIONLOSSFACTOR shows the Transmission Loss factors applied at each connection point..
Visibility	Public
Data volume	Medium
Trigger	TRANSMISSIONLOSSFACTOR updates when new connection points are created or loss factors change.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVReports
Primary key (in order)	CONNECTIONPOINTID, EFFECTIVEDATE, VERSIONNO

Modified columns

Comment change only

Field name	Data type	Primary key	Comment
TRANSMISSIONLOSSFACTOR	NUMBER(15,5)	No	Used in Bidding, Dispatch and Settlements. For Bidding and Dispatch, where the DUID is a BDU with DISPATCHTYPE of BIDIRECTIONAL, the TLF for the load component of the BDU. For Settlements, where dual TLFs apply, the primary TLF is applied to all energy (load and generation) when the Net Energy Flow of the ConnectionPointID in the interval is negative (net load).
SECONDARY_TLF	NUMBER(18,8)	No	Used in Bidding, Dispatch and Settlements, only populated where Dual TLFs apply. For Bidding and Dispatch, the TLF for the generation component of a BDU, when null the TRANSMISSIONLOSSFACTOR is used for both the load and generation components. For Settlements, the secondary TLF is applied to all energy (load and generation) when the Net Energy Flow of the ConnectionPointID in the interval is positive (net generation).

5.9 Package: BIDS

Energy and Market Based FCAS Offers

5.9.1 Modified table: BIDDAYOFFER

Comment	**BIDDAYOFFER shows the Energy and Ancillary Service bid data for each Market Day. BIDDAYOFFER is the parent table to BIDOFFERPERIOD. BIDDAYOFFER is a child table to BIDOFFERFILETRK**
Visibility	Public
Data volume	Medium
Trigger	BIDDAYOFFER data is published whenever new bid data arrives.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS

Comment	**BIDDAYOFFER shows the Energy and Ancillary Service bid data for each Market Day. BIDDAYOFFER is the parent table to BIDOFFERPERIOD. BIDDAYOFFER is a child table to BIDOFFERFILETRK**
Primary key (in order)	SETTLEMENTDATE, BIDTYPE, DUID, OFFERDATE, DIRECTION

New columns

Field name	Data type	Primary key	Comment
DIRECTION	VARCHAR2(20)	Yes	The power flow direction to which this offer applies: GEN, LOAD or BIDIRECTIONAL

5.9.2 Modified table: BIDDAYOFFER_D

Primary key change

Comment	**BIDDAYOFFER_D shows the public summary of the energy and FCAS offers applicable in the Dispatch for the intervals identified. BIDDAYOFFER_D is the parent table to BIDPEROFFER_D.**
Visibility	Public
Data volume	Medium
Trigger	BIDDAYOFFER_D data is published daily.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	SETTLEMENTDATE, BIDTYPE, DUID, DIRECTION

New columns

Field name	Data type	Primary key	Comment
DIRECTION	VARCHAR2(20)	Yes	The power flow direction to which this offer applies: GEN, LOAD or BIDIRECTIONAL

5.9.3 Modified table: BIDPEROFFER_D

Primary key change

Comment	**BIDPEROFFER_D shows the public summary of the energy and FCAS offers applicable in the Dispatch for the intervals identified. BIDPEROFFER_D is the child to BIDDAYOFFER_D.**
Visibility	Public
Data volume	Medium
Trigger	BIDPEROFFER_D data is published daily.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	SETTLEMENTDATE, BIDTYPE, DUID, DIRECTION, INTERVAL_DATETIME

New columns

Field name	Data type	Primary key	Comment
DIRECTION	VARCHAR2(20)	Yes	The power flow direction to which this offer applies: GEN, LOAD or BIDIRECTIONAL
ENERGYLIMIT	NUMBER(15,5)	No	The Energy limit applying at the end of this dispatch interval in MWh. For GEN this is a lower energy limit. For LOAD this is an upper energy limit

5.9.4 Modified table: BIDOFFERPERIOD

Primary key change

Comment	BIDOFFERPERIOD shows 5-minute period-based Energy and Ancillary Service bid data.BIDOFFERPERIOD is a child table of BIDDAYOFFER
Visibility	Public
Data volume	Large
Trigger	BIDOFFERPERIOD data is published whenever new bid data arrives.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	TRADINGDATE, BIDTYPE, DUID, OFFERDATETIME, DIRECTION, PERIODID

New columns

Field name	Data type	Primary key	Comment
DIRECTION	VARCHAR2(20)	Yes	The power flow direction to which this offer applies: GEN, LOAD or BIDIRECTIONAL
ENERGYLIMIT	NUMBER(15,5)	No	The Energy limit applying at the end of this dispatch interval in MWh. For GEN this is a lower energy limit. For LOAD this is an upper energy limit
PERIODIDTO	NUMBER(3,0)	No	Period ID ending

5.10 Package: DISPATCH

Results from a published Dispatch Run

5.10.1 Modified table: DISPATCHREGIONSUM

Comment	**DISPATCHREGIONSUM sets out the 5-minute solution for each dispatch run for each region, including the Frequency Control Ancillary Services (FCAS) services provided. Additional fields are for the Raise Regulation and Lower Regulation Ancillary Services plus improvements to demand calculations.**
Visibility	Public
Data volume	Medium
Trigger	DISPATCHREGIONSUM updates every 5 minutes
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	DISPATCHINTERVAL, INTERVENTION, REGIONID, RUNNO, SETTLEMENTDATE

New columns

Field name	Data type	Primary key	Comment
BDU_ENERGY_STORAGE	NUMBER(15,5)	No	Regional aggregated energy storage where the DUID type is BDU (MWh)
BDU_MIN_AVAIL	NUMBER(15,5)	No	Total available load side BDU summated for region (MW)
BDU_MAX_AVAIL	NUMBER(15,5)	No	Total available generation side BDU summated for region (MW)
BDU_CLEAREDMW_GEN	NUMBER(15,5)	No	Regional aggregated cleared MW where the DUID type is BDU. Net of export (Generation)
BDU_CLEAREDMW_LOAD	NUMBER(15,5)	No	Regional aggregated cleared MW where the DUID type is BDU. Net of import (Load)

5.10.2 Modified table: DISPATCHLOAD

Comment	**DISPATCHLOAD set out the current SCADA MW and target MW for each dispatchable unit, including relevant Frequency Control Ancillary Services (FCAS) enabling targets for each five minutes and additional fields to handle the new Ancillary Services functionality. Fast Start Plant status is indicated by dispatch mode**
Visibility	Private, Public Next-Day
Data volume	Medium
Trigger	DISPATCHLOAD shows data for every 5 minutes for all units, even zero targets.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	DUID, INTERVENTION, RUNNO, SETTLEMENTDATE

Modified columns

Comment change only

Field name	Data type	Primary key	Comment
TOTALCLEARED	NUMBER(15,5)	No	Target MW for end of period. Negative values when Bi-directional Unit is importing power, otherwise positive.
INITIALMW	NUMBER(15,5)	No	Initial MW at start of period. Negative values when Bi-directional Unit start from importing power, otherwise positive.

New columns

Field name	Data type	Primary key	Comment
INITIAL_ENERGY_STORAGE	NUMBER(15,5)	No	BDU only. The energy storage at the start of this dispatch interval (MWh)

Field name	Data type	Primary key	Comment
ENERGY_STORAGE	NUMBER(15,5)	No	BDU only. The projected energy storage based on cleared energy and regulation FCAS dispatch (MWh)
MIN_AVAILABILITY	NUMBER(15,5)	No	BDU only. Load side availability (BidOfferPeriod.MAXAVAIL where DIRECTION = LOAD)

5.11 Package: P5MIN

Results from a published Five-Minute Predispatch Run

5.11.1 Modified table: P5MIN_REGIONSOLUTION

Comment	**The five-minute predispatch (P5Min) is a MMS system providing projected dispatch for 12 Dispatch cycles (one hour). The 5-minute Predispatch cycle runs every 5-minutes to produce a dispatch and pricing schedule to a 5-minute resolution covering the next hour, a total of twelve periods. P5MIN_REGIONSOLUTION shows the results of the regional capacity, maximum surplus reserve and maximum spare capacity evaluations for each period of the study.**
Visibility	Public
Data volume	Medium
Trigger	P5MIN_REGIONSOLUTION updates every 5 minutes
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	INTERVAL_DATETIME, REGIONID, RUN_DATETIME

New columns

Field name	Data type	Primary key	Comment
BDU_ENERGY_STORAGE	NUMBER(15,5)	No	Regional aggregated energy storage where the DUID type is BDU (MWh)
BDU_MIN_AVAIL	NUMBER(15,5)	No	Total available load side BDU summated for region (MW)
BDU_MAX_AVAIL	NUMBER(15,5)	No	Total available generation side BDU summated for region (MW)
BDU_CLEAREDMW_GEN	NUMBER(15,5)	No	Regional aggregated cleared MW where the DUID type is BDU. Net of export (Generation)
BDU_CLEAREDMW_LOAD	NUMBER(15,5)	No	Regional aggregated cleared MW where the DUID type is BDU. Net of import (Load)

5.11.2 Modified table: P5MIN_UNITSOLUTION

Comment	**The five-minute predispatch (P5Min) is a MMS system providing projected dispatch for 12 Dispatch cycles (one hour). The 5-minute Predispatch cycle runs every 5-minutes to produce a dispatch and pricing schedule to a 5-minute resolution covering the next hour, a total of twelve periods. P5MIN_UNITSOLUTION shows the Unit results from the capacity evaluations for each period of the study.**
Visibility	Private~~Public~~
Data volume	Medium
Trigger	P5MIN_UNITSOLUTION updates every 5 minutes for all units, even zero targets.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	DUID, INTERVAL_DATETIME, RUN_DATETIME

New columns

Field name	Data type	Primary key	Comment
INITIAL_ENERGY_STORAGE	NUMBER(15,5)	No	BDU only. The energy storage at the start of this dispatch interval (MWh)
ENERGY_STORAGE	NUMBER(15,5)	No	BDU only. The projected energy storage based on cleared energy and regulation FCAS dispatch (MWh)
ENERGY_STORAGE_MIN	NUMBER(15,5)	No	BDU only - Minimum Energy Storage constraint limit (MWh)
ENERGY_STORAGE_MAX	NUMBER(15,5)	No	BDU only - Maximum Energy Storage constraint limit (MWh)
MIN_AVAILABILITY	NUMBER(15,5)	No	BDU only. Load side availability (BidOfferPeriod.MAXAVAIL where DIRECTION = LOAD)

Modified columns

Comment change only

Field name	Data type	Primary key	Comment
TOTALCLEARED	NUMBER(15,5)	No	Target MW for end of period. Negative values when Bi-directional Unit is importing power, otherwise positive.
INITIALMW	NUMBER(15,5)	No	'Initial MW at start of period. For periods subsequent to the first period of a P5MIN run, this value represents the cleared target for the previous period of that P5MIN run. Negative values when Bi-directional Unit start from importing power, otherwise positive

5.12 Package: PRE_DISPATCH

Results from a published Predispatch Run

5.12.1 Modified table: PREDISPATCHREGIONSUM

Comment	PREDISPATCHREGIONSUM sets out the overall regional Pre-Dispatch results for base case details (excluding price).
Visibility	Public
Data volume	Medium
Trigger	PREDISPATCHREGIONSUM updates every thirty minutes.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	DATETIME, REGIONID

New columns

Field name	Data type	Primary key	Comment
BDU_ENERGY_STORAGE	NUMBER(15,5)	No	Regional aggregated energy storage where the DUID type is BDU (MWh)
BDU_MIN_AVAIL	NUMBER(15,5)	No	Total available load side BDU summated for region (MW)
BDU_MAX_AVAIL	NUMBER(15,5)	No	Total available generation side BDU summated for region (MW)
BDU_CLEAREDMW_GEN	NUMBER(15,5)	No	Regional aggregated cleared MW where the DUID type is BDU. Net of export (Generation)
BDU_CLEAREDMW_LOAD	NUMBER(15,5)	No	Regional aggregated cleared MW where the DUID type is BDU. Net of import (Load)

5.12.2 Modified table: PREDISPATCHLOAD

Comment	**PREDISPATCHLOAD shows pre-dispatch targets for each dispatchable unit, including additional fields to handle the Ancillary Services functionality. No record is written where a unit is not dispatched. PREDISPATCHLOAD shows all the results for each period**
Visibility	Private, Public Next-Day
Data volume	Medium
Trigger	Own (confidential) data updates every thirty minutes, with whole market data for the day before available as part of next day market data.
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	DATETIME, DUID

New columns

Field name	Data type	Primary key	Comment
INITIAL_ENERGY_STORAGE	NUMBER(15,5)	No	BDU only. The energy storage at the start of this dispatch interval (MWh)
ENERGY_STORAGE	NUMBER(15,5)	No	BDU only. The projected energy storage based on cleared energy and regulation FCAS dispatch (MWh) Participants may use negative values as an indicator of the relative error in profiling Max Availability to reflect energy limits.
ENERGY_STORAGE_MIN	NUMBER(15,5)	No	BDU only - Minimum Energy Storage constraint limit (MWh)
ENERGY_STORAGE_MAX	NUMBER(15,5)	No	BDU only - Maximum Energy Storage constraint limit (MWh)
MIN_AVAILABILITY	NUMBER(15,5)	No	BDU only. Load side availability (BidOfferPeriod.MAXAVAIL where DIRECTION = LOAD)

Modified columns

Comment change only

Field name	Data type	Primary key	Comment
TOTALCLEARED	NUMBER(15,5)	No	Target MW for end of period. Negative values when Bi-directional Unit is importing power, otherwise positive.
INITIALMW	NUMBER(15,5)	No	Initial MW at start of first period. For periods subsequent to the first period of a Pre-Dispatch run, this value represents the cleared target for the previous period of that Pre-Dispatch run. Negative values when Bi-directional Unit start from importing power, otherwise positive.

5.13 Package: PD7DAY

Results from a published Predispatch 7 Day Run

5.13.1 New table: PD7DAY_CASESOLUTION

Comment	PD7DAY case solution table
Visibility	Public
Data volume	Medium
Trigger	PD7DAY publishes few times per day
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME

New columns

Field name	Data type	Primary key	Comment
RUN_DATETIME	DATE	Y	Unique Timestamp Identifier for this study
INTERVENTION	NUMBER(2,0)	No	Flag to indicate if this Predispatch case includes an intervention pricing run: 0 = case does not include an intervention pricing run, 1 = case does include an intervention pricing run.
LASTCHANGED	DATE	No	Last date and time record changed

5.13.2 New table: PD7DAY_MARKET_SUMMARY

Comment	PD7DAY market summary showing calculated gas fuel forecasts
Visibility	Public
Data volume	Medium
Trigger	PD7DAY publishes few times per day
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME,INTERVAL_DATETIME

New columns

Field name	Data type	Primary key	Comment
RUN_DATETIME	DATE	Yes	Unique Timestamp Identifier for this study

Field name	Data type	Primary key	Comment
INTERVAL_DATETIME	DATE	Yes	The unique identifier for the interval within this study
GPG_FUEL_FORECAST_TJ	NUMBER(15,5)	No	The total gas consumption in TJ

5.13.3 New table: PD7DAY_CONSTRAINTSOLUTION

Comment	PD7DAY constraint solution
Visibility	Public
Data volume	Medium
Trigger	PD7DAY publishes few times per day
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME,INTERVAL_DATETIME,CONSTRAINTID,INTERVENTION

New columns

Field name	Data type	Primary key	Comment
RUN_DATETIME	DATE	Yes	Unique Timestamp Identifier for this study
INTERVENTION	NUMBER(2,0)	Yes	Flag to indicate if this Predispatch case includes an intervention pricing run: 0 = case does not include an intervention pricing run, 1 = case does include an intervention pricing run.
INTERVAL_DATETIME	DATE	Yes	The unique identifier for the interval within this study

Field name	Data type	Primary key	Comment
CONSTRAINTID	VARCHAR2(20)	Yes	Constraint identifier (synonymous with GenConID)
RHS	NUMBER(15,5)	No	Right Hand Side value in the capacity evaluation in MW
MARGINALVALUE	NUMBER(15,5)	No	Marginal cost of constraint (>0 if binding) in $/MW
VIOLATIONDEGREE	NUMBER(15,5)	No	Amount of Violation (>0 if violating) in MW
LHS	NUMBER(15,5)	No	Aggregation of the constraints LHS term solution values in MW
LASTCHANGED	DATE	No	Last date and time record changed

5.13.4 New table: PD7DAY_INTERCONNECTORSOLUTION

Comment	PD7DAY intereconnector solution
Visibility	Public
Data volume	Medium
Trigger	PD7DAY publishes few times per day
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS
Primary key (in order)	RUN_DATETIME,INTERVAL_DATETIME,INTERCONNECTORID,INTERVENTION

New columns

Field name	Data type	Primary key	Comment
RUN_DATETIME	DATE	Yes	Unique Timestamp Identifier for this study
INTERVENTION	NUMBER(2,0)	Yes	Flag to indicate if this Predispatch case includes an intervention pricing run: 0 = case does not include an intervention pricing run, 1 = case does include an intervention pricing run.
INTERVAL_DATETIME	DATE	Yes	The unique identifier for the interval within this study
INTERCONNECTORID	VARCHAR2(20)	Yes	Interconnector identifier
METEREDMWFLOW	NUMBER(15,5)	No	'SCADA MW Flow measured at Run start. For periods subsequent to the first period of a PD7DAY run, this value represents the cleared target for the previous period of that PD7DAY run.
MWFLOW	NUMBER(15,5)	No	Cleared Interconnector loading level (MW)
MWLOSSES	NUMBER(15,5)	No	Interconnector Losses at cleared flow
MARGINALVALUE	NUMBER(15,5)	No	Marginal cost of Interconnector standing data limits (if binding)
VIOLATIONDEGREE	NUMBER(15,5)	No	Violation of Interconnector standing data limits
EXPORTLIMIT	NUMBER(15,5)	No	Calculated Interconnector limit of exporting energy on the basis of invoked constraints and static interconnector export limit
IMPORTLIMIT	NUMBER(15,5)	No	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.
MARGINALLOSS	NUMBER(15,5)	No	Marginal loss factor at the cleared flow
EXPORTCONSTRAINTID	VARCHAR2(20)	No	Generic Constraint setting the export limit

Field name	Data type	Primary key	Comment
IMPORTCONSTRAINTID	VARCHAR2(20)	No	Generic Constraint setting the import limit
FCASEXPORTLIMIT	NUMBER(15,5)	No	Calculated export limit applying to energy + Frequency Controlled Ancillary Services.
FCASIMPORTLIMIT	NUMBER(15,5)	No	Calculated import limit applying to energy + Frequency Controlled Ancillary Services.
LOCAL_PRICE_ADJUSTMENT_EXPORT	NUMBER(10,2)	No	Aggregate Constraint contribution cost of this Interconnector: Sum(MarginalValue x Factor) for all relevant Constraints, for Export (Factor >= 0)
LOCALLY_CONSTRAINED_EXPORT	NUMBER(1,0)	No	Key for Local_Price_Adjustment_Export: 2 = at least one Outage Constraint; 1 = at least 1 System Normal Constraint (and no Outage Constraint); 0 = No System Normal or Outage Constraints
LOCAL_PRICE_ADJUSTMENT_IMPORT	NUMBER(10,2)	No	Aggregate Constraint contribution cost of this Interconnector: Sum(MarginalValue x Factor) for all relevant Constraints, for Import (Factor >= 0)
LOCALLY_CONSTRAINED_IMPORT	NUMBER(1,0)	No	Key for Local_Price_Adjustment_Import: 2 = at least one Outage Constraint; 1 = at least 1 System Normal Constraint (and no Outage Constraint); 0 = No System Normal or Outage Constraints
LASTCHANGED	DATE	No	Last date and time record changed

5.13.5 New table: PD7DAY_PRICESOLUTION

Comment	PD7DAY price solution
Visibility	Public
Data volume	Medium
Trigger	PD7DAY publishes few times per day
Participant file share location	<#INTRFACE>\<#PARTICIPANTID>\IMPORT\REPORTS\CSVREPORTS

Comment	PD7DAY price solution
Primary key (in order)	RUN_DATETIME,INTERVAL_DATETIME,REGIONID,INTERVENTION

New columns

Field name	Data type	Primary key	Comment
RUN_DATETIME	DATE	Yes	Unique Timestamp Identifier for this study
INTERVENTION	NUMBER(2,0)	Yes	Flag to indicate if this Predispatch case includes an intervention pricing run: 0 = case does not include an intervention pricing run, 1 = case does include an intervention pricing run.
INTERVAL_DATETIME	DATE	Yes	The unique identifier for the interval within this study
REGIONID	VARCHAR2(20)	Yes	Region Identifier
RRP	NUMBER(15,5)	No	Region Reference Price (Energy)
LOWER1SECRRP	NUMBER(15,5)	No	Regional Lower 1Sec Price - RegionSolution element L1Price attribute
LOWER6SECRRP	NUMBER(15,5)	No	Region Reference Price (Lower6Sec)
LOWER60SECRRP	NUMBER(15,5)	No	Region Reference Price (Lower60Sec)
LOWER5MINRRP	NUMBER(15,5)	No	Region Reference Price (Lower5Min)
LOWERREGRRP	NUMBER(15,5)	No	Region Reference Price (LowerReg)
RAISE1SECRRP	NUMBER(15,5)	No	Regional Raise 1Sec Price - R1Price attribute after capping/flooring
RAISE6SECRRP	NUMBER(15,5)	No	Region Reference Price (Raise6Sec)

Field name	Data type	Primary key	Comment
RAISE60SECRRP	NUMBER(15,5)	No	Region Reference Price (Raise60Sec)
RAISE5MINRRP	NUMBER(15,5)	No	Region Reference Price (Raise5Min)
RAISEREGRRP	NUMBER(15,5)	No	Region Reference Price (RaiseReg)
LASTCHANGED	DATE	No	Last date and time record changed

5.14 Participant interfaces changes

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

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

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

Package Name	MMS Data Model table	File ID	CSV report type	Change
BILLING_RUN	BILLING_ENERGY_TRANSACTIONS	BILLING	BILLING,ENERGY_TRANSACTIONS,1	New
	BILLING_ENERGY_GENSET_DETAIL	BILLING	BILLING,ENERGY_GENSET_DETAIL,1	New
	BILLING_APC_RECOVERY	BILLING	BILLING,APC_RECOVERY,3	Modified
	BILLINGASRECOVERY	BILLING	BILLING,ASRECOVERY,3	Modified
	BILLING_DAILY_ENERGY_SUMMARY	BILLING	BILLING,DAILY_ENERGY_SUMMARY,2	Modified
	BILLING_DIRECTION_RECON_OTHER	BILLING	BILLING,BILLING_DIRECTION_RECON_OTHER,2	Modified

Package Name	MMS Data Model table	File ID	CSV report type	Change
	BILLRESERVETRADERRECOVERY	BILLING	BILLING,RVETRADERRECOVERY,3	Modified
	BILLING_NMAS_TST_RECOVERY	BILLING	BILLING,NMAS_TST_RECOVERY,2	Modified
SETTLEMENT_CONFIG	ANCILLARY_RECOVERY_SPLIT	ANCILLARY_RECOVERY_SPLIT	SETTLEMENT_CONFIG,ANCILLARY_RECOVERY_SPLIT,2	Modified
	MARKETFEE	MARKETFEE	SETTLEMENT_CONFIG,MARKETFEE,2	Modified
SETTLEMENT_DATA	SET_ENERGY_TRANSACTIONS	SETTLEMENTS	SETTLEMENTS,ENERGY_TRANSACTION,1	New
	SET_ENERGY_REGION_SUMMARY	SETTLEMENTS	SETTLEMENTS,ENERGY_REGION_SUMMARY,1	New
	SET_ENERGY_GENSET_DETAILS	SETTLEMENTS	SETTLEMENTS,ENERGY_GENSET_DETAIL,1	New
	SETINTRAREGIONRESIDUES	SETTLEMENTS	SETTLEMENTS,INTRAREGIONRESIDUES,6	Modified
	SETFCASREGIONRECOVERY	SETTLEMENTS	SETTLEMENTS,FCASREGIONRECOVERY,6	Modified
	SET_FCAS_RECOVERY	SETTLEMENTS	SETTLEMENTS,FCAS_RECOVERY,8	Modified
	SETMARKETFEES	SETTLEMENTS	SETTLEMENTS,MARKETFEES,7	Modified
	SET_NMAS_RECOVERY	SETTLEMENTS	SETTLEMENTS,NMAS_RECOVERY,3	Modified
	SET_RECOVERY_ENERGY	SETTLEMENTS	SETTLEMENTS,RECOVERY_ENERGY,2	Modified
PDPASA	PDPASA_REGIONSOLUTION	PDPASA	PDPASA,PDPASA_REGIONSOLUTION,8	Modified
STPASA_SOLUTION	STPASA_REGIONSOLUTION	STPASA	STPASA,STPASA_REGIONSOLUTION,8	Modified
PARTICIPANT_REGISTRATION	DUDETAIL	PARTICIPANT_REGISTRATION	PARTICIPANT_REGISTRATION,DUDETAIL,6	Modified

Package Name	MMS Data Model table	File ID	CSV report type	Change
	GENUNITS	PARTICIPANT_REGISTRATION	PARTICIPANT_REGISTRATION,GENUNITS,3	Modified
	GENUNITS_UNIT	PARTICIPANT_REGISTRATION	PARTICIPANT_REGISTRATION,GENUNITS_UNIT,2	Modified
	DUDETAILSUMMARY	PARTICIPANT_REGISTRATION	PARTICIPANT_REGISTRATION,DUDETAILSUMMARY,7	Modified
	DISPATCHABLEUNIT	PARTICIPANT_REGISTRATION	PARTICIPANT_REGISTRATION, DISPATCHABLEUNIT,1	Modified
MARKET_CONFIG	FCAS_REGU_USE_FACTORS_TRK			New
	FCAS_REGU_USE_FACTORS			New
BIDS	BIDDAYOFFER	BIDS	BIDS,BIDDAYOFFER,1	Modified
	BIDDAYOFFER_D	BID	BID,BIDDAYOFFER_D,3	Modified
	BIDPEROFFER_D	BID	BID,BIDPEROFFER_D,3	Modified
	BIDOFFERPERIOD	BIDS	BIDS,BIDOFFERPERIOD,1	Modified
DISPATCH	DISPATCHREGIONSUM	DISPATCHIS	DISPATCHIS,DISPATCHREGIONSUM,8	Modified
	DISPATCHLOAD	DISPATCHIS	DISPATCHIS,DISPATCHLOAD,5	Modified
P5MIN	P5MIN_REGIONSOLUTION	P5MIN	P5MIN,P5MIN_REGIONSOLUTION,9	Modified
	P5MIN_UNITSOLUTION	P5MIN	P5MIN,P5MIN_UNITSOLUTION,6	Modified
PRE_DISPATCH	PREDISPATCHREGIONSUM	PREDISPATCH	PREDISPATCH,PREDISPATCHREGIONSUM,8	Modified

Package Name	MMS Data Model table	File ID	CSV report type	Change
	PREDISPATCHLOAD	PREDISPATCH	PREDISPATCH,PREDISPATCHLOAD,4	Modified
PD7DAY	PD7DAY_CASESOLUTION	PD7DAY_GPG		New
	PD7DAY_MARKET_SUMMARY	PD7DAY_GPG		New
	PD7DAY_CONSTRAINTSOLUTION	PD7DAY_GPG		New
	PD7DAY_INTERCONNECTORSOLUTION	PD7DAY_GPG		New
	PD7DAY_PRICESOLUTION	PD7DAY_GPG		New

5.15 File interface changes

Package ID	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
BILLING_RUN	BILLING		*_BILLING_*.CSV	Weekly	Modified	
SETTLEMENT_CONFIG	ANCILLARY_RECOVERY_SPLITTRK		*_SETTLEMENT_CONFIG_*.CSV	When the AS Recovery Split data change	Modified	
SETTLEMENT_CONFIG	MARKETFEE		*_SETTLEMENT_CONFIG_*.CSV	When the Market Fee data change	Modified	
SETTLEMENT_DATA	SETTLEMENTS		*_SETTLEMENTS_*.CSV	Daily	Modified	
PDPASA	PDPASA		*_PDPASA_*.CSV	Every 30 minutes	Modified	
STPASA_SOLUTION	STPASA		*_STPASA_*.CSV	Every 1 hours	Modified	

Package ID	File ID	Description	Batcher file masks	Frequency	Modification	Auto-subscription
PARTICIPANT_REGISTRATION	PARTICIPANT_REGISTRATION		*_PARTICIPANT_REGISTRATION_*.CSV	When registration details change	Modified	
MARKET_CONFIG				When values details change	New	
BIDS	BIDS		*_BID_*.CSV			
DISPATCH	DISPATCHIS		*_DISPATCHIS_*.CSV	Every 5 minutes	Modified	
P5MIN	P5MIN		*_P5MIN_*.CSV	Every 5 minutes	Modified	
PRE_DISPATCH	PRE_DISPATCH		*_PREDISPATCHIS_*.CSV	After a pre-dispatch run	Modified	
PD7DAY	PD7DAY_GPG			Publishes few times per day	New	

5.16 Discontinued reports

File ID	MMS Data Model table	Delivered in file	CSV report type	Replaced by

5.17 Non-functional changes

Table 1 MMS Data Model 5.3 non-functional changes

MMS Data Model table	Change detail
None	

6 Reports

6.1 Settlements text reports

6.1.1 Settlement report (SR)

The Settlement report (SR) is divided into different sections which detail the Invoice Statement of a participant. The sections of the SR report changing with the IESS rule change are:

- Base Energy Transactions
- FCAS
- NSCAS
- Directions

Base energy transactions

Base energy section currently details all the Sales and Purchases made by a participant in a Billing Period across different connection points. Post IESS, this section is the total ACE and ASOE recorded for the participant in the Billing Period.

Energy Transactions

	Aggregate Energy (MWh)	Aggregate Amount ($)	UFEA (MWh)
Total Adjusted Sent Out Energy	51000.00	$5,100,000.00	0.00
Total Adjusted Consumed Energy	-21500.00	-$2,150,000.00	0.00
Nett Sales (Purchases)	29500.00	$2,950,000.00	0.00

Sales (Purchases) by Connection Point

Connection Point	Description	Total Amount ($)	Load Wtd Avg. Price ($/MWh)	Total Energy (MWh)	UFEA (MWh)	ASOE (MWh)	ACE (MWh)	ASOE Amount ($)	ACE Amount ($)
ABCD1	ABC Unit 1	$1,000,000.00	100.00	10000.00	0.00	15000.00	-5000.00	$1,500,000.00	-$500,000.00
ABCD2	ABC Unit 2	$1,500,000.00	100.00	15000.00	0.00	25000.00	-10000.00	$2,500,000.00	-$1,000,000.00
ACBD3	ABC Unit 3	$500,000.00	100.00	5000.00	0.00	10000.00	-5000.00	$1,000,000.00	-$500,000.00
ABCD4	ABC Unit 4	-$50,000.00	100.00	-500.00	0.00	1000.00	-1500.00	$100,000.00	-150,000.00

Frequency control ancillary transactions

Post IESS, the recovery section of the SR Report displays the sum of ACE and ASOE used in FCAS recovery for the participant in the Billing Period.

Market Ancillary Service Transactions - Recovery

Service Provided	ACE Amount ($)	ASOE Amount ($)	Total Amount ($)
Very Fast raise	$0.00	-$22,185.61	-$22,185.61
Fast raise	$0.00	-$57,799.97	-$57,799.97
Slow raise	$0.00	-$26,555.96	-$26,555.96
Delayed raise	$0.00	-$3,284.18	-$3,284.18

Non-market ancillary transactions

After IESS, the NMAS recovery section of the SR Report displays the total ACE and ASOE used in NMAS recovery for the participant in the Billing Period.

```
Non Market Ancillary Service Transactions - Recovery
-------------------------------------------------------------------------------------------
NMAS Type                                   ACE Amount($)          ASOE Amount($)          Total Amount($)
-------------------------------------------------------------------------------------------
SRAS                                                $0.00              -$33,317.30              -$33,317.30
-------------------------------------------------------------------------------------------
Total Recovery (Payment To AEMO)                    $0.00              -$33,317.30              -$33,317.30
===========================================================================================================
```

If there is recovery period from pre-IESS period, the Testing payments amount section displays as below:

```
Non Market Ancillary Service Transactions - Recovery
-------------------------------------------------------------------------------------------
NMAS Type                                   Customer Amount($)     Generator Amount($)      Total Amount($)
-------------------------------------------------------------------------------------------
SRAS                                                $0.00              -$33,317.30              -$33,317.30
-------------------------------------------------------------------------------------------
Total Recovery (Payment To AEMO)                    $0.00              -$33,317.30              -$33,317.30
===========================================================================================================
```

For the Non-market ancillary service transactions by region and type – recovery, the recovery amounts are fetched from the new columns RecoveryAmount_ACE and RecoveryAmount_ASOE.

```
Non Market Ancillary Service Transactions by Region and Type - Recovery
-------------------------------------------------------------------------------------------
NMAS Type          Service       RegionId  Availability  Enablement/Usage  Compensation      Testing         Total
-------------------------------------------------------------------------------------------
SRAS          System Restart          VIC1      -$213.87             $0.00         $0.00      -$46.32      -$260.19
-------------------------------------------------------------------------------------------
Total Recovery (Payment To AEMO)                -$213.87             $0.00         $0.00      -$46.32      -$260.19
===========================================================================================================
```

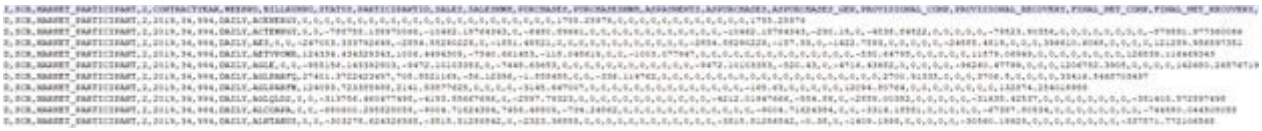
6.1.2 Region summary report

The Region Summary Report (RSR) is a public report with the summary of each NEM region. While there is no change to the format or line-item details, the Energy Sent Out and the Energy Purchased items now get the information from the Billing.Energy_Region_Summary table.

```
Regional Summary Report (NSW,VIC,QLD,SA,SNOWY)
-----------------------------------------------

REVISION 1 Settlements

23-Oct-2022 to 29-Oct-2022                          Week Number 44


Region: NSW1

Energy Sent out                        NNNNNNN.NN (MWh)    $NNNNNNN.NN
Energy Purchased                      -NNNNNNN.NN (MWh)    -$NNNNNNN.NN
Energy Imported from QLD1                NNNNN.47 (MWh)      $NNNNNN.00
Energy Imported from VIC1                NNNNN.96 (MWh)      $NNNNNN.70
Energy Exported to QLD1                 -NNNN.52 (MWh)      -$NNNNNN.05
```

6.1.3 Settlement custom report

Settlement Custom Report is a Public CSV Report with the Summary for Participants and a Participant ID NEMMCO which is the sum of all the Participant Ids. This is a report for AEMC and AER, not to NEM Participants.



This report now contains 2 additional columns, ASPurchases_ACE and ASPurchases_ASOE. The existing columns sums the AS Recovery amounts for Customers and Generators if there is any test payment recovery from pre-IESS period. No Payments other than Testing Payments are summed up in these columns.

6.1.4 Market summary report

MSR is a public report with the Summary at NEM Level (ALL Regions). The line-item Energy Sent Out by Generators is renamed as **Energy Sent Out** and Energy Purchased by Customers will be renamed as **Energy Purchased**.

```
--------------------------------------------------
MARKET SUMMARY REPORT
--------------------------------------------------

REVISION 1 Settlements

21-Apr-2019 to 27-Apr-2019                              Week Number 17


                                                 Energy          Amount
                                                 --------------- --------------
Energy Sent Out By Generators                    3290461.81 MWh $215144733.33
Energy Purchased By Customers                    -3214070.13 MWh -$218725770.41

Settlements Surplus Account                                      -$2470476.06
Inter Regional Settlements Surplus Account                        $1129762.34
Market Excess Generation                                                $0.00
Market Reserve Trading                                                  $0.00
Market Intervention Compensation                                        $0.00
Market Administration Compensation                                      $0.00
Total Ancillary Services                                          $3816711.03
Total Pool Fees Received                                         -$1849234.01

--------------------------------------------------
END OF REPORT
--------------------------------------------------
```

6.2 MDP substitution type 13 data

AEMO creates MDFF 5 and 15min files for consumption by Metering Data Providers (MDPs) to perform type 13 metering data substitution, if required.

MDPs utilise SCADA MDFF data for type 13 meter read substitutions to fulfil their obligations for both B2M and B2B Transactions in compliance with the **Metrology Procedure Part B**.

From the IESS rule commencement date Monday 3 June 2024, the csv file includes interval data for registered and effective BDUs. To support BDUs, the file format is the same but it contains the following data changes:

- 200 line contains the SCADA NMI BDU information. This information is populated based on the following rules:
  - The Dispatchable Unit ID
  - Left padded with 'Z' to complete the 10 characters for a NMI
- E1 300 line for kWh intervals when a BDU is consuming load
- B1 300 line when a BDU is generating

6.2.1 Retrieving the files

MDPs can retrieve these files and load them into their metering solution environment from the following folders:

- \<#PARTICIPANTID>\IMPORT\REPORTS\MDA_MDFF5
- \<#PARTICIPANTID>\IMPORT\REPORTS\MDA_MDFF

6.2.2 Transitioning Battery Energy Storage System (BESS)

For BESS, the following data is observed when transitioning from two DUIDs to a single BDU.

Status	Pre-cutover	Cutover	Post-cutover
BDU DUID	DUID present in payloads with all intervals associated to E1 and B1 are 0	E1 and B1 are 0 until the cutover time (i.e., 1 pm interval), then the actual SCADA values for remainder of the day	Continuous actual SCADA values, E1 for load and B1 for generation
Existing two DUID BESS (load and generation pair)	No change	E1 and B1 are the actual SCADA values until the cutover time (i.e., 1 pm interval), then zero values for remainder of the day	DUID present in payloads with all intervals associated to E1 and B1 are 0 until the two DUID deregistered +5 day of cutover, then it is not present in payloads

6.3 NEM reports

NEMWeb reports are public CSV reports delivered to the public FTP Site. The list of NemWeb reports that are affected by IESS are:

BILLING_AS_RECOVERY_SUMMARY	AS Weekly Report - Recovery Summary
BILLING_DIRECT_PROV_RECON	Direction Reconciliation for Provisional Directions
BILLING_DIRECT_FINAL_RECON	Direction Reconciliation for Final Directions
BILLING_DIRECT_PROV_CRA_SPLIT	Direction Reconciliation for Provisional Directions split CRA
BILLING_DIRECT_FINAL_CRA_SPLIT	Direction Reconciliation for Final Directions split CRA
BILLING_ASRECOVERY_GRAPH_CUSTOMER	AS Recovery Graph – Customer
BILLING_ASRECOVERY_GRAPH_GENERATOR	AS Recovery Graph - Generator

6.3.1 Billing AS recovery summary

This is a public report containing data for all the posted weeks in the Contract Year parameter. When this report is triggered in the IESS Period, the data source and format is different for weeks Pre-IESS and Post IESS weeks.

For example, for pre-IESS the column displays TOTAL_CUSTOMER_RECOVERY and post-IESS it contains TOTAL_ACE_RECOVERY and TOTAL_CUSTOMER_RECOVERY to handle Test Payments that has recovery period spanning across the IESS boundary.

The AS Recovery Summary file has 2 sections post-IESS period. First, the existing data set (legacy data). A new section is appended to the file with data from post-IESS weeks. This section has the format to include ACE and ASOE.

6.3.2 Billing direct prov recon

Billing Direct Prov Recon is a public CSV report that contains the reconciliation data for Provisional Direction. The format of this report is modified to include ACE and ASOE columns instead of Customer and Generator.

If a pre-IESS week is triggered, the BILLING_DIRECT_PROV_RECON2_EXT_1 will produce 0 rows and for post-IESS week BILLING_DIRECT_PROV_RECON2_1 will have 0 rows.

For the new report section, the ACE_MWh and ASOE_MWh are used to display the energy values.

6.3.3 Billing direct final recon

Billing Direct Final Recon is a public CSV report that contains the reconciliation data for Final Direction.

If a pre-IESS week is triggered, the BILLING_DIRECT_FINAL_RECON2_EXT_1 will produce 0 rows and for post-IESS week BILLING_DIRECT_FINAL_RECON2_1 will have 0 rows.

For the new report section, the ACE_MWh and ASOE_MWh are used to display the energy values.

6.3.4 Billing direct prov CRA split

Billing direct prov CRA split is a public CSV report that contains the Provisional Direction Recovery Details for each Participant Category.

The data in the above table is not affected by IESS and the change is that instead of CUSTOMER/GENERATOR, the Participant Category is ACE and ASOE in the table. Because this for each ROW, the report automatically reads this data and print in the report.

```
C,SETP.WORLD,BILLING_DIRECT_PROV_CRA_SPLIT,AEMO,PUBLIC,2023/07/05,12:34:07,0000000391212340,,0000000391212332
I,BILLING,DIRECTION_CRA,1,DIRECTION_ID,"PARTICIPANT CATEGORY",NSW,QLD,SA,TAS,VIC
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Customer",0.000000,0.000000,344871.566177,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Small Generation Aggregator",0.000000,0.000000,0.000000,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Generator",0.000000,0.000000,0.000000,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Network Service Provider",0.000000,0.000000,0.000000,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0002,"Market Customer",0.000000,0.000000,332060.518345,0.000000,0.000000
```

6.3.5 Billing direct final CRA split

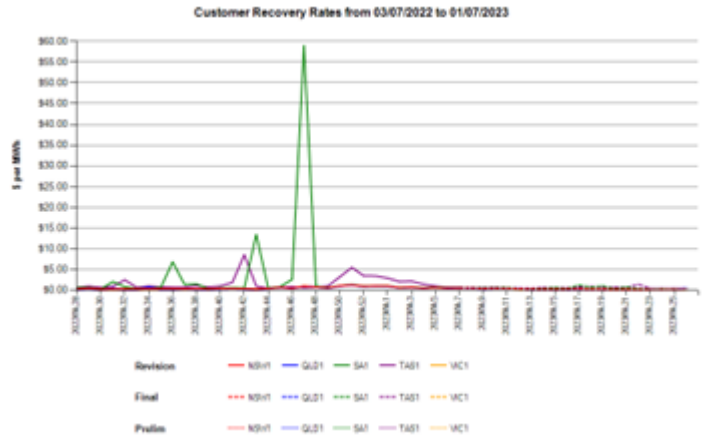
Billing direct final CRA split is a public CSV report that contains the Final Direction Recovery Details for each Participant Category.

The data in the above table is not affected by IESS and the change is that instead of CUSTOMER/GENERATOR, the Participant Category is ACE and ASOE in the table. Because this for each ROW, the report automatically reads this data and print in the report.

```
C,SETP.WORLD,BILLING_DIRECT_PROV_CRA_SPLIT,AEMO,PUBLIC,2023/07/05,12:34:07,0000000391212340,,0000000391212332
I,BILLING,DIRECTION_CRA,1,DIRECTION_ID,"PARTICIPANT CATEGORY",NSW,QLD,SA,TAS,VIC
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Customer",0.000000,0.000000,344871.566177,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Small Generation Aggregator",0.000000,0.000000,0.000000,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Generator",0.000000,0.000000,0.000000,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0001,"Market Network Service Provider",0.000000,0.000000,0.000000,0.000000,0.000000
D,BILLING,DIRECTION_CRA,1,20230604.D0002,"Market Customer",0.000000,0.000000,332060.518345,0.000000,0.000000
```

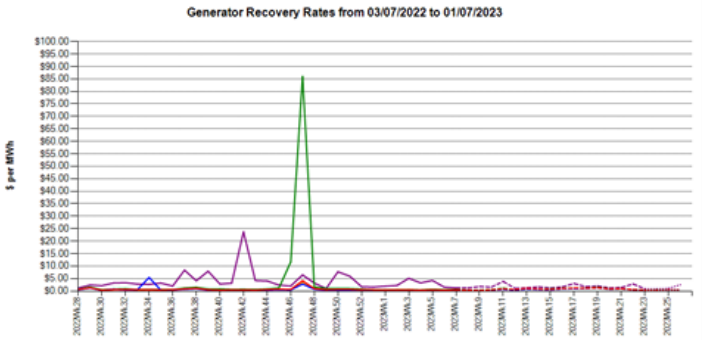
6.3.6 AS ACE recovery rate graph

Ancillary Service ACE Recovery Rate graph shows the ACE Recovery Rate for the past 52 Billing Weeks. Billing Week is the X Axis and ACE Recovery Rate is Y Axis:



6.3.7 AS ASOE Recovery Rate Graph

Ancillary Service ASOE Recovery Rate graph shows the ASOE Recovery Rate for the past 52 Billing Weeks. Billing Week is the X Axis and ASOE Recovery Rate is Y Axis:



6.4 Data subscription

For help, see:

- **Participant file server folders**
- **Data Subscription**

6.4.1 Data interchange

You can automate the delivery of reports to your local folders by setting up a Data Interchange instance. For help, see **About Data Interchange**.

7 FAQs

7.1 BDU validation

7.1.1 Is it possible for the MAXENABLEMENT of LOAD and MINENABLEMENT of GEN be a value other than 0? Do they always meet at zero or can they be offset with the correct angles?

One of the conditions for this validation is there should be no gaps between the LOAD and GEN. They must meet at zero because it has to be one continuous trapezium in AEMO's system.

7.1.2 How many decimal places does the validation of the angles go to?

The Bidding validation checks the angles up to 5 decimal places.

7.1.3 Are trapezium rules for non-BDUs the same as BDUs?

There are no changes to the trapezium rules for non-BDUs.

7.1.4 How does the energy limit works for BDUs as it seems to be slightly different other types of units. Will more information be available?

Yes, more information is now available in **Energy Limit in BDU bids**. For more information, you can contact **IESS@AEMO.com.au**.

7.2 Releases

7.2.1 What is the pre-release?

The pre-release is for participants to update and test their Bidding tables in the PDSE environment before the full Data Model release to pre-production. It is only for the 4 Bidding tables with primary key changes.

7.2.2 When are the Data Model pre-production and production releases?

To access the required changes, access the Participant File Server **ftp://146.178.211.25** Releases\MMS Data Model:

- Pre-production: \PreProduction\v5.3_PreRelease.
- Production: \Production\v5.3_PreRelease.

7.2.3 Do we only apply the pre-release to pre-production?

The pre-release is available in pre-production and production. AEMO recommends you test it in pre-production before applying it to your production environment.

7.2.4 Can we implement the v5.3_PreRelease in production now?

Yes, providing you have tested it in pre-production.

7.2.5 Do we have to do the pre-release before going to v5.3?

No, if you have managed your data well, you can skip the pre-release an implement Data Model v5.3 in pre-production. Do not implement in production without testing in pre-production.

7.2.6 Are you storing the bids twice for the Bid Day Offer table?

Yes, the pre-release is it duplicating data into the Bid Day Offer and the renamed table. When you apply the pre-release, before renaming, it populates the data in the renamed table and the current table, so no bidding data is missed.

7.2.7 In the renamed table, does it load the data and add the direction detail?

Yes, the reports populate with the direction field data when you upgrade. The process involves renaming the existing table to an archive type table and back populating data in the direction columns. The data moves out of the archive table and back into the main table with the correct primary key and the direction column.

7.2.8 Does the script populate the direction field data when you upgrade?

Yes, the back population script is available in the Participant File Server **ftp://146.178.211.25** Releases\MMS Data Model:

- Pre-production: \PreProduction\v5.3_PreRelease.
- Production: \Production\v5.3_PreRelease.

7.2.9 Is there a significant difference between the pre-release and the full release?

Yes, the pre-release only contains the bidding changes. The full release contains everything but the table structure for the bidding changes.

7.2.10 How long do participants have to migrate?

When Upgrading to Data Model v5.3 in production, excluding the SETCPDATA tables, the old and the new tables both get populated, but there are some additional tables, replacing older tables so participants should migrate to version v5.3 to properly reconcile any statement amounts.

7.2.11 How do you turn off the Parallel Table Run in the pre-release?

Once you are satisfied with the data and want to switch to the new tables, run the MMSDM_Switch_Bidoffer_Table_Names_v1.1.zip script to rename the tables. Participant File Server **ftp://146.178.211.25** Releases\MMS Data Model:

- Pre-production: \PreProduction\v5.3_PreRelease.
- Production: \Production\v5.3_PreRelease.

7.3 Baseline files

7.3.1 Where do I find the baseline files?

There are two baseline files. The participant registration baseline file is available in the AEMO pre-production server in \\MarketData\Baseline folder. This file is generated daily, with the following format: Participant name_registration_date.

7.3.2 Is the baseline data specific to the pre-release or is it the same baseline folder that's always been available?

It is the same baseline folder. The release notes recommend updating populated dispatchable unit detail data by applying this baseline data before moving the historical data to the main updated tables. For more information, see Populating baseline data to data model tables.

7.4 PD7DAY reports

7.4.1 Are PD7Day reports private?

No, they are public reports. There is no private unit solution included as part of the PD7 Day report suite. It's only region-based attributes and other public data like the other suites like P5 min for example.

7.5 Primary key changes

7.5.1 Has the order changed in the following tables: BIDDAYOFFER, BIDDAYOFFER_D, BIDOFFERPERIOD & BIDPEROFFER_D?

Yes, we have reordered the primary key with the indexing column of DUID and BIDTYPE. For more information, see Package: BIDS.

Primary key change rationale

To help participants with the large volumes of data in the bidding tables and minimise downtime, we broke our normal standard practice and implemented the primary key changes in a phased release. The key message is to implement the pre-release in a time frame where you have sufficient history of the current offers built up so when we get to implementing the production data model v5.3 release and swap those tables around it allows your critical processes to sustain their business services.

We implemented the primary key changes in the following phased release:

1. Added the direction field in all Legacy and latest reports because they are huge tables so we wanted to ensure the reports had this field populated.
2. Added the period ID to all reports populated by the BidOfferPeriod tables.
3. Provided the Data Model v5.3 pre-release, encouraging participants to apply this pre-release in their pre-production environment to prepare for the transition approach and start with back population for the production release.
4. Renamed tables and populated historical data in renamed tables.
5. Added smarts in the upgrade to check if the pre-release is applied, if yes, do not update the bidding tables but update the other tables. If no, update the bidding tables.

6. Realigned the primary keys for DUID and BIDTYPE as there were a few participants who had issues with the previous primary key order as the index was inefficient on such a large table.

For more details, see the Release Notes ftp://146.178.211.25 Releases\MMS Data Model\MMS Data Model:

- Pre-production: \PreProduction\v5.3\MMS Data Model v5.3 Release Notes
- Production: \Production\v5.3\MMS Data Model v5.3 Release Notes

7.6 Settlement tables

7.6.1 Can you confirm the following tables are populated and updated during the running of Settlement weeks 7 and 8?

SET_FCAS_RECOVERY
SET_FCAS_PAYMENT
SET_NMAS_RECOVERY
SETRPOWERPAYMENT
SETLSHEDPAYMENT
SETRESTARTPAYMENT
SETMARKETFEES
SET_ENERGY_TRANSACTIONS
SET_ENERGY_GENSET_DETAIL
BILLING_GST_DETAIL
BILLRESERVETRADERRECOVERY
BILLRESERVETRADERPAYMENT

The tables on this list can be included in all settlement runs. except SET_NMAS_RECOVERY, BILLRESERVETRADERRECOVERY, and BILLRESERVETRADERPAYMENT which requires additional setup. These requirements will be passed on to the Markets Trials team so data can be populated in the tables for Market Trials. For questions, contact **NEMReform@aemo.com.au**.

7.6.2 Isn't SETCPDATA getting populated until RREV2 for June?

Yes, the SETCPDATA is populated until the revision2 for June is completed, but these are only for date pre-IESS go-live.

7.6.3 Regarding settlements information, it will have a new table once we update 5.3, what will happen to the old table? How can historical data be applied

Historical data is still coming into the old legacy tables for SETCPDATA and BILLINGCPDATA, new data is going into new tables and this data is only for dates after 2 June 2024. Any data for dates before this, will go into the old tables.

7.6.4 Can we transfer the Billing cp data into new table?

AEMO has provided a transition script to populate the SETCPDATA with the post IESS settlements data, but not for billing tables, and vice versa, there is no purpose to do that because the new structures for the tables are completely different.

NOTE: Even though you can populate the SETCPDATA tables post IESS, it might be difficult to reconcile the reports. See section 3.5 in the EMMS - Technical Specification - Data Model v5.3 - April 2024**.**

7.6.5 Can we apply DM 5.3 onto Batcher to version 7.4.2? Or do we need to upgrade to 7.5?

There is no dependency for Data Model 5.3 to be on a specific version of Batcher, and AEMO still supports 7.4.2. You can choose 7.4.2 or 7.5.

7.7 Data model

7.7.1 When is the full data model (5.3) release available to participants?

The technical specification only covers the new/modified details. The full data model details are available when the scripts/reports are released in the preproduction and production.

7.7.2 Are we having coordinated market trials?

There are coordinated trials, in the sense there's a few settlement scenarios we need to do for publishing, but it's not like 5MS where you need people to put in valid input, but coordinated in the sense AEMO will run through a set of transitions. AEMO is working with the stakeholders regarding these scenarios right now.

7.7.3 Is AEMO planning to provide a detailed transition table mapping for the rest of the tables like Settlements?

This was raised at a QA forum recently and AEMO is looking to republish the mapping explainer document in early November (tentatively).

7.7.4 Is AEMO planning a walkthrough of settlement table changes specifically for business users?

AEMO is following up with stakeholders on their specific needs and considering the best way to provide this information.

For settlements experts from industry, the IESS project team have already provided **information sessions** and an explainer of the **detailed table changes**.

7.7.5 Do all participants need to upgrade the API and FTP bid submission to include the new Direction field?

Only participants registering for bidirectional units MUST upgrade to the new versions. For all existing DUID types, the APIs and FTP submissions are backward compatible and continue working.

7.7.6 What is changing in the INITIALMW and TOTALCLEARED columns in the DISPATCHLOAD, P5MIN_UNITSOLUTION, P5MIN_REGIONSOLUTION, and PREDISPATCHLOAD tables?

The only change for these columns is the comment field. Once the BDUs become active, you may see both positive and negative values in these columns. Previously, these values were always positive.

7.7.7 What is the impact to generator and load NMIs at BDU cutover?

AEMO is working with interested Market Participants in the BDU Readiness Focus Group to look at all scenarios individually. The BDU cutover happens over an extended (9 month) period with participants who have expressed interest in BDU. All the Energy is recorded against the single NMI which is the generated NMI. During the transition process, AEMO removes existing Dispatch Units and creates new Dispatch Units.

7.7.8 In relation to the BDU cutover, is AEMO working with Market Participants as part of the registration process? What does the overall process look like?

Yes, AEMO understands there are task participants need to do at specific times and will work with interested Market Participants. AEMO provides more details in the BDU Readiness Focus Group.

7.7.9 Are participants determining the replacement DUID to attach to a BDU or is AEMO driving this?

AEMO is discussing this in the BDU Readiness Focus Group. AEMO sent out draft arrangements to affected participants who have nominated contacts. To obtain the draft arrangements, email **iess@aemo.com.au**.

7.7.10 Will the bidding validation rules be in the technical specification?

Yes, we will include them in the updated version and also published them in the **Format And Validation For FTP Energy, FCAS And MNSP Bids And Offers**.

7.7.11 Is there a plan to implement a logical solution so negative means load, or a standards for the meaning of negative and positive?

No, we have no future plans to change these unless there is something significant to necessitate it. It was a judgement call to interpret for consistency. We deliberated on these questions and determined internal models to represent them to minimise the change to industry.

7.7.12 For the new SET_ENERGY_TRANSACTIONS table, will the connection points have multiple entries based on the different meter types?

Yes, the meter types are from the NMI classifications. In this table, the CONNECTIONPOINTID sometimes refers to the TNI and in this case there can be multiple NMI classifications under the TNI. The meter type in the energy transactions is used to calculate the fees as the fees are still based upon the customer data and the generated data separately instead of ACE and ASOE.

7.7.13 Why is METER_TYPE included in the primary key in the SET_ENERGY_TRANSACTIONS table?

In this table, the CONNECTIONPOINTID sometimes refers to TNI and in this case there can be multiple NMI classifications under the TNI. This is the reason for adding METER_TYPE as primary key.

7.7.14 When will the Data Model tech spec be finalised?

For more information, see Technical specification process in the Technical Specification Portal.

7.7.15 AEMO recommends partitioning in the tables in the SQL scripts. But the actual scripts to create new tables don't include the partition option. Is it up to the participant to implement it?

Yes, it depends on your setup. For example, partitioning is available in Oracle Enterprise but not on Oracle Standard. You should preserve the logical structure of what AEMO delivers.

AEMO delivers SQL scripts for systems with basic capabilities. If you're using a product with those capabilities and intending on storing an extended data history online, then you can consider implementing partitioning.

7.7.16 What is AEMO's plan for implementing the Sparse Data Model?

See the Sparse Data Model topic in the Technical Specification Portal for more information. In a previous MSUG, we discussed a transition strategy with participants. AEMO provided an 18-month transition timeframe based on participants' feedback about requiring more time to complete the transition

The Data Model 5.3 release falls within the transition period. There are significant changes to how offer data is interpreted and a primary key change, so it is an opportunity to also adopt the Sparse Data Model. Or you could defer the sparse data implementation but note fully qualified reports are discontinued at 30 November 2024. The size of these reports are continuing to grow and is no longer a sustainable delivery model in the long term.

7.7.17 Can we update our data structure to version 5.3 schema and still receive the version 5.2 reports?

Yes, all legacy reports are populated with changes to the bidding tables. When participants apply the pre-release scripts containing the bidding changes, the reports contain the primary key changes.

7.7.18 When Data Model 5.3 is released to pre-production and production, will the _SPARSE files get the new columns (DIRECTION, BIDPERIODTO)?

Yes, the pre-release in pre-production, the PERIODIDTO and DIRECTION columns are populated in the sparse, next day reports, legacy reports and the latest reports. Participants do not need to change their subscription to apply the pre-release.

7.7.19 Will there be a new non-LEGACY non-SPARSE report at that time?

Yes, see above.

7.7.20 Will the _LEGACY files remain unchanged?

No, if the pre-release is applied in pre-production.

7.8 Participant development support environment (PDSE)

7.8.1 What is the transition plan for PDSE?

The Data Model release is in stages. AEMO provides Data Model 5.3 in PDSE by end of November. Preprod scripts are released in March 2024, prod in April 2024.

DO NOT apply the staging scripts to your preprod or prod environments.

The PDSE is a separate environment. It does not contain everything but pieces of settlements tables/report, separate bidding, implementation of bidding APIs, bidding files.

7.8.2 What is the tentative date for staging for participants?

At the moment, the milestone date is 15 December for Settlements and 22 January for BDU.

7.8.3 Is data sharing enabled in the PDSE?

The PDSE is a snapshot of the production environment, however, it is not a fully functional or fully supported environment.

7.8.4 Is AEMO refreshing the PDSE regularly or would it be a one-off refresh?

As of now, it is a one off. The initial snapshot is from production. The settlement tables are populated in December as a one-off to provide participants clarity on the new structure of the tables. AEMO may update the PDSE environment if required.

7.8.5 In the PDSE, for the new Settlements tables, how many days' worth of data is populated?

AEMO is planning to publish the reports for one billing run. It is for one billing week, so participants get a feel of what the reports look like.

7.8.6 What week is AEMO providing the data for?

AEMO is planning to use a week from June 2023 period since it was the most recent database update for some internal activities.

If participants already have those reports, they can use the PDSE reports with new tables to compare the changes between the data model versions.

7.8.7 With the June 2023 data, when are the details updated into the new Energy Transaction table?

AEMO is planning to post the settlement billing week update end of November. Participants will predominantly be receiving the details in the first week of December.

7.8.8 Is the web portal in Participant Development Support Environment (PDSE) accessible to participants?

Yes, you can access the web portal in the production environment with the same URM credentials as the pre-production environment. If you require help, contact Support Hub. For more information, see **Markets Portal (PDSE)**.

7.8.9 With PDSE, is there is no batcher loader required? CSV Files to be loaded into that env? Just a static?

You can configure the batcher loader in the PDSE environment and populate the report in the bidding tables. This requires updating your data source in PDR loader.

The data source details are available in the PDSE - MMS Data Model v5.3 Release Notes located in the Releases\MMS Data Model\PDSE\v5.3_BETA folder. It contains a section explaining the configuration changes required for the PDR loader.

7.8.10 Will these files be supplied by a batcher or supplied on an ad hoc basis and then go through a PDR loader?

The bidding system is running on PDSE through ftp, API and web bidding. Reports are published to PDSE. Participants must configure the batcher and loader to load reports from PDSE.

7.8.11 Can I use the existing TLS certificate for PDSE?

Yes, you can use your pre-production certificate.

8 Implementation

8.1 Transition

8.1.1 Participant development support environment

Participants need to set up a separate instance of the environment to deploy the draft scripts for Data Model 5.3. For more information on the participant development support environment, see **IESS Participant Development Support Environment**. For transition steps in the PDSE environment, see the PDSE- MMS Data Model Release Notes in Releases\MMS Data Model\PDSE\v5.3_BETA in the Participant File Share server.

8.1.2 Market trial and industry testing

For more information on the Readiness approach for June 2024, see **Integrating Energy Storage Systems: Readiness approach for June 2024 releases**.

For more information on the Settlements release, see **Retail and Settlement release** and for the BDU information, see **Registration, classification, and bidding changes release**.

8.2 Upgrading

You can upgrade your pre-production or production Data Model environments once you receive the Data Model scripts. Applying the scripts sets up the new Data Model structure on your local database. You receive the same data until the new versions of fields, files, and reports are released into pre-production or production and you update your subscriptions.

For help, see:

- **Upgrading your DI environments**
- **Updating your subscriptions**:

8.3 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.
- Schedule staff and resources to upgrade their market systems for the production implementation of this Release.

8.4 Risks

See Participant Impact.

9 Terms

9.1 Rules Terms

You can find the following terms defined in the **National Electricity Rules (NER)** and the **Settlements Residue Auction Rules**.

Term
AEMO
AEMO Clearing Account
AEMO Markets Portal
AEMO Website
Allocated Units
APA
Auction
Auction Participant
Auction Rules
Average cancellation price
Average purchase price
Bid File
Cancelled Units
Cancelled volume
Cash Security
Confidential Information

Term
Directional interconnector
Linked Bid
Market Clearing Price
Market Participants
Maximum Units
NEM
Notional Interconnector
Offer Database
Offer File
Offer Period
Offer Submission
Offered Units
Offers
Product
Prudential Approved Participant

Term
Prudential Exposure
Region
Regional reference prices
Registered Participant
Relevant Quarter
Settlement residue auction
Settlement residue committee
Settlement residue distribution agreement
SRDA Units
Trading Limit
Trading Margin
Trading Position
Unit Category
Units

9.2 Glossary

You can find a full list of AEMO glossary terms in **Industry Terminology** on AEMO's website.

Abbreviation/Term	Explanation
AEST	Australian Eastern Standard Time
B2B	Business-to-business
B2M	Business-to-market
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
MSATS	Market Settlement and Transfer Solution for retail electricity
NER	National Electricity Rules
MW	Megawatt
Release	EMMS - Technical Specification - Data Model v5.3 - April 2024
Release Dates	Pre-production: 13 March 2024 Production: 10 April 2024
TBC	To be confirmed

10 References

Guide to AEMO's e-Hub APIs: Provides details about using AEMO's e-Hub as an interface to communicate information with AEMO. It assists Wholesale electricity and gas participants developing their own APIs.

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

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

Retail Electricity Market Glossary and Framework: assist participants of the Retail Electricity Market to understand the overall framework. It also contains a list of terms used in the Retail Electricity Market Procedures and a full list of NEM procedures, guidelines, and documents.

10.1 Data interchange and data model resources

10.1.1 About

Information about setting up a Data Interchange environment: Data Interchange Help > **About Data Interchange**.

10.1.2 Help

- **Data interchange online help**

10.1.3 Software

You can find Data Interchange software in the following locations:

- Data Interchange Help > **Software Releases**.
- Releases directory on the participant file share: FTP to 146.178.211.2 > Data Interchange, pdrBatcher, pdrLoader, or pdrMonitor.

10.1.4 Reports

- Data Interchange Help > **Data Model Reports**.

10.1.5 Releases

- Data Interchange Help > **Release Documents**.

11 Index

I

L

M

P

R

S

T

U

V

W

A1. Version history

11.1 V2.00

The updates in this version include:

- Updates status to FINAL.
- Adds section in Reports chapter about MDP substitution type 13 data.

11.2 V1.02

The updates in thisversion include:

- Updates the Market Trial date to 3 April 2024.
- Updates FAQs based on the MSUG:
  - BDU validation
  - Releases
  - Baseline files
  - PD7DAY reports
  - Primary key changes
  - Settlement tables
- Updates in the Electricity Data Model 5.3 chapter:

Package	Table	Change
BIDS	BIDDAYOFFER	Reordered the primary keys
	BIDDAYOFFER_D	Reordered the primary keys
	BIDOFFERPERIOD	Reordered the primary keys
	BIDPEROFFER_D	Reordered the primary keys

11.3 V1.01

The updates in this version include:

- Adds more information about NEXT_DAY and PD7DAY tables in **NEXT_DAY bids** and **PD7DAY changes** sections.
- Updates in the Electricity Data Model 5.3 chapter:

Package	Table	Change
BILLING_RUN	BILLINGASRECOVERY	Updates new column comment to add “NULL for Billing Week prior to the IESS rule effective date”.
	BILLING_APC_RECOVERY	Comment update for PARTICIPANT_ACE_MWH
	BILLING_DAILY_ENERGY_SUMMARY	Adds column: ACE_MWH NUMBER(18,8)
	BILLING_ENERGY_GENSET_DETAIL	Adds PARTICIPANTID to primary key
	BILLING_ENERGY_TRANSACTIONS_PK	Updates REGIONID to Yes for primary key column
	BILLING_NMAS_TST_RECOVERY	Removes PUBLICATION_ID from PK Updates new column comment to add “NULL for Billing Week prior to the IESS rule effective date”.
SETTLEMENT_DATA	SET_FCAS_RECOVERY	Comment update for LOWERREG_ACE and RAISEREG_ACE
	SET_NMAS_RECOVERY	Comment update for REGION_ENERGY
	SET_ENERGY_GENSET_DETAILS	Updated table comment
PARTICIPANT_REGISTRATION	DUDETAIL	Updates comment for MAXSTORAGECAPACITY and STORAGEEXPORTEFFICIENCYFACTOR columns
	GENUNITS	Updates comment for MAXSTORAGECAPACITY column
	GENUNITS_UNIT	Updates comment for MAXSTORAGECAPACITY column

Package	Table	Change
P5MIN	P5MIN_UNITSOLUTION	Fixes data type for ENERGY_STORAGE_MIN and ENERGY_STORAGE_MAX to NUMBER(15,5). Fixes column description for INITIALMW.
PDPASA	PDPASA_REGIONSOLUTION	Fixes data type for SEMISCHEDULEDCAPACITY to NUMBER(12,2)
PRE_DISPATCH	PREDISPATCHLOAD	Fixes data type for ENERGY_STORAGE_MIN and ENERGY_STORAGE_MAX to NUMBER(15,5).
PD7DAY	PD7DAY_CONSTRAINTSOLUTION	Reordered the primary keys
	PD7DAY_INTERCONNECTORSOLUTION	Reordered the primary keys. Fixes data type for IMPORTCONSTRAINTID and INTERCONNECTORID to VARCHAR2(20) Updates column description for METEREDMWFLOW
	PD7DAY_PRICESOLUTION	Reordered the primary keys
BIDS	BIDDAYOFFER	Reordered the primary keys
	BIDDAYOFFER_D	Reordered the primary keys
	BIDOFFERPERIOD	Reordered the primary keys
	BIDPEROFFER_D	Reordered the primary keys

11.4 V1.00

The updates in this version include:

- Updates the Proposed Timeline chapter to remove the second pre-release of the scripts in PDSE on 16 February as it contains only minor updates to the scripts released on 22 November. Also, adds a link to the technical specification portal for pre-production refresh timeline.
- Adds section in the Participant Impact chapter for Pre-production refresh with a link to the **Technical Specification Portal**.
- Updates FAQs chapter with participant questions from the MSUG.

- Updates in the Electricity Data Model 5.3 chapter:

Package	Table	Change
BIDS	BIDOFFERPERIOD	Fixes PERIODTO to PERIODIDTO.
PRE_DISPATCH	PREDISPATCHLOAD	Modifies the comment for ENERGY_STORAGE column
PARTICIPANT_REGISTRATION	DUDETAIL	Adds new columns - MIN_RAMP_RATE_UP, MIN_RAMP_RATE_DOWN, LOAD_MIN_RAMP_RATE_UP, LOAD_MIN_RAMP_RATE_DOWN

11.5 V0.05

The updates in this version include:

- Updates the Proposed Timeline chapter to include dates to back populate Bidding tables and other details.
- Adds new section with the draft NEXT_DAY **bids**
- The following section provides more information on NEXT_DAY_* tables:
- During the pre-release of Data Model 5.3 in PDSE, AEMO added the DIRECTION field to the following reports as a primary key.

File_id	Added report column	Target tables	Report version	Latest/legacy	Data subscription
NEM_BIDS	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required
BID_MOVE_COMPLETE	DIRECTION	BIDDAYOFFER_D BIDPEROFFER_D	2	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_LEGACY	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required
NEXT_DAY_OFFER_FCAS_LEGACY **NEXT_DAY_OFFER_FCAS_2_LEGACY**	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_SPARSE	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required

File_id	Added report column	Target tables	Report version	Latest/legacy	Data subscription
NEXT_DAY_OFFER_FCAS_SPARSE	DIRECTION	BIDDAYOFFER BIDOFFERPERIOD	1	Keep same report version	Not required

With the release of Data Model 5.3, the current version of the reports additionally includes the PERIODIDTO field. This field ensures participants who apply the prerelease scripts, have the PERIODIDTO field available and populated to transition to Sparse model.

File_id	Target tables	Report version	Latest/legacy	Data subscription
NEM_BIDS	BIDDAYOFFER - DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required
BID_MOVE_COMPLTE	BIDDAYOFFER_D- DIRECTION BIDPEROFFER_D- DIRECTION	2	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_LEGACY	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required
NEXT_DAY_OFFER_FCAS_LEGACY **NEXT_DAY_OFFER_FCAS_2_LEGACY**	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required
NEXT_DAY_OFFER_ENERGY_SPARSE	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required
NEXT_DAY_OFFER_FCAS_SPARSE	BIDDAYOFFER- DIRECTION BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Keep same report version	Not required

The Data Model 5.3 release adds new version of the following reports. Participants subscribed to the current version are moved to LEGACY.

File_id	Target tables	Report version	Data subscription
NEM_BIDS_LEGACY	BIDOFFERPERIOD- DIRECTION, PERIODIDTO	1	Participants move to LEGACY version of these reports and **MUST** subscribe to latest version to receive the ENERGY_LIMIT field after they have upgraded to the latest Data Model 5.3.
NEM_BIDS	BIDOFFERPERIOD- DIRECTION, PERIODIDTO, **ENERGY_LIMIT**	2	
BID_MOVE_COMPLTE_LEGACY	BIDPEROFFER_D- DIRECTION	2	

File_id	Target tables	Report version	Data subscription
BID_MOVE_COMPLETE	BIDPEROFFER_D- DIRECTION, **ENERGY_LIMIT**	3	

11.5.1 PD7DAY changes

The PD7DAY tables have the following changes:

- Currently, the PD7DAY_GPG reports are non-data model reports and there are no changes with this release.
- The Data Model 5.3 release adds a new PD7DAY package along with new Data Model tables and reports.
- There is no impact to participants currently subscribed to PD7DAY_GPG until the Data Model 5.3 upgrade.
- The Data Model 5.3 upgrade renames the existing PD7DAY tables to *_PRE53 and adds new structure for these tables.
- Participants currently subscribed to PD7DAY_GPG move to the PD7DAY_LEGACY report and Data Model 5.3 adds a new version of PD7DAY.
- After applying the Data Model 5.3 upgrade, participants need to **manually subscribe** to the new PD7DAY reports.
- To migrate historical data from any custom loading solutions, participants must develop appropriate scripting for the backfilling activity.

Existing PD7DAY_GPG non data model reports

File_id	Report_id
PD7DAY_GPG	GPG_CASESOLUTION
PD7DAY_GPG	GPG_MARKET_SUMMARY_1
PD7DAY_GPG	GPG_CONSTRAINTSOLUTION_1
PD7DAY_GPG	GPG_INTERCONNECTORSOLUTION_1
PD7DAY_GPG	GPG_PRICES_2

New PD7DAY tables in Data Mode 5.3

File_id	Data model table	Changes to the existing structure
PD7DAY	PD7DAY_CASESOLUTION	No changes
PD7DAY	PD7DAY_MARKET_SUMMARY	DATETIME field has changed to INTERVAL_DATETIME. This is to cater to some database platforms in which the DATETIME field can be a reserved word.
PD7DAY	PD7DAY_CONSTRAINTSOLUTION	No changes
PD7DAY	PD7DAY_INTERCONNECTORSOLUTION	No changes
PD7DAY	PD7DAY_PRICESOLUTION	No changes

11.5.2 DISPATCHLOAD table

In the DISPATCHLOAD table, the ENABLEMENTMIN and ENABLEMENTMAX columns can be negative values for BDUs.

- **Bidding data model table updates** messages.
- Updates in the Electricity Data Model 5.3 chapter:

Package	Table	Change
BILLING_RUN	BILLING_ENERGY_TRANSACTIONS	Adds REGIONID as primary key
	BILLING_ENERGY_GENSET_DETAIL	Adds PARTICIPANTID, REGIONID, CONNECTIONPOINTID, METERID to the primary key
PARTICIPANT_REGISTRATION	DUDETAILSUMMARY	Replaces the LOAD_TRANSMISSIONLOSSFACTOR column by SECONDARY_TLF column. Modifies the comment for the TRANSMISSIONLOSSFACTOR and SECONDARY_TLF columns.
	DUDETAIL	Fixes an error in the STORAGEEXPORTEFFICIENCYFACTOR column comment.
PDPASA	PDPASA_REGIONSOLUTION	Adds AGGREGATEPASAAVAILABILITY as a comment change only to the Modified columns.

Package	Table	Change
STPASA_SOLUTION	STPASA_REGIONSOLUTION	Adds AGGREGATEPASAAVAILABILITY as a comment change only to the Modified columns.
SETTLEMENT_DATA	SET_FCAS_RECOVERY	Fixes Modified columns table comment to 'NULL for Settlement dates post the IESS rule effective date'.
	SET_NMAS_RECOVERY	Fixes Modified columns table comment to be consistent wording as other tables.
MARKET_CONFIG	TRANSMISSIONLASSFACTOR	Updates New table to Modified table. Modifies the comment for the TRANSMISSIONLOSSFACTOR and SECONDARY_TLF columns to provide more clarity.

11.6 V0.04

The changes in this version include:

- Updates the FAQs to include questions from the MSUG on 22 November 2023.
- Updates the Proposed Timeline chapter with new dates for preproduction and production release of the Data Model 5.3 along with other related dates due to the preproduction refresh scheduled in early-March.
- Updates in the Electricity Data Model 5.3 chapter:

Package	Table	Change
MARKET_CONFIG	FCAS_REGULATION_USAGE_FACTORS_TRK	Updates the table names to FCAS_REGU_USAGE_FACTORS_TRK and FCAS_REGU_USAGE_FACTORS to satisfy the character limit in the database.
	FCAS_REGULATION_USAGE_FACTORS	

11.7 V0.03

The changes in this version include:

- Updates Proposed Timeline for MSUG date and Market trial dates.

- Updates the Data model changes summary section format to include a mini-TOC and maintain a single source of truth. For more information, click on the hyperlink to go to the specific table details.
- Updates the following Data Model tables as follows:

Package	Table	Change
SETTLEMENT_CONFIG	ANCILLARY_RECOVERY_SPLIT	Adds modified table for Data Model 5.3 New columns: ACE_PORTION
	MARKETFEE	Modifies table for Data Model 5.3 New columns: METER_TYPE METER_SUBTYPE
SETTLEMENT_DATA	SET_ENERGY_REGION_SUMMARY	Changes visibility to Public
	SET_ENERGY_TRANSACTIONS	Updates comment for TLF column
	SET_ENERGY_GENSET_DETAIL	Updates comment for TLF column Updates REGIONID column as not a primary key Adds RRP column to the table
	SETINTRAREGIONRESIDUES	Updates comments for New columns table to include NULL for Settlement dates prior to the IESS rule effective date Updates comments for Modified columns table to include NULL for Settlement dates post to the IESS rule effective date
	SETFCASREGIONRECOVERY	
	SET_FCAS_RECOVERY	
	SET_NMAS_RECOVERY	
	SET_RECOVERY_ENERGY	
MARKET_CONFIG	TRANSMISSIONLOSSFACTOR	Modifies table for Data Model 5.3 Modified columns (comment changes only): TRANSMISSIONLOSSFACTOR SECONDARY_TLF

Package	Table	Change
BILLING_RUN	BILLING_ENERGY_TRANSACTIONS	Changes data type for BILLRUNNO to NUMBER(4,0)
	BILLING_ENERGY_GETSET_DETAIL	Changes data type for CONTRACTYEAR to NUMBER(4,0)
	BILLING_APC_RECOVERY	Updates New columns table comments to include If the Billing Week is prior to the IESS rule effective date, then value is Null.
	BILLINGASRECOVERY	Updates New column comments to include NULL for Billing Week prior to the IESS rule effective date Updates Modified column comments to include NULL for Billing Week post to the IESS rule effective date
	BILLING_DAILY_ENERGY_SUMMARY	
	BILLING_DIRECTION_RECON_OTHER	
	BILLING_NMAS_TST_RECOVERY	
	BILLRESERVETRADERRECOVERY	Updates New column comments to include NULL for Billing Week prior to the IESS rule effective date Updates Modified column comments to include NULL for Billing Week post to the IESS rule effective date Fixes Primary Key from CONTRACTID to CONTRACTYEAR.
BIDS	BIDOFFERPERIOD	Adds the PERIODTO column.
PARTICIPANT_REGISTRATION	DUDETAIL	Updates DISPATCHTYPE column comment to include BIDIRECTIONAL.

- Updates the Participant interfaces changes table.
- Updates the File interface changes table.
- Updates column name from INENERGY to IENERGY in What happens if I do not upgrade to Data Model 5.3?, Settlements section.

- Participant development support environment and Transition sections.
- Adds links to the Settlements and Bidding changes document in the Transition section.

Adds a link about the Participant Development Support Environment in DO NOT apply the scripts to preproduction or production environment.

11.8 V0.02

- Updates to the Proposed Timeline to include the details for the Participant support environment.
- Updates the Participant Impact section to include information on auto subscription, and what happens if participants do not upgrade to EMMS Data Model 5.3.
- Updates FAQs based on questions from the MSUG.
- Update the Electricity Data Model 5.3 tables based on feedback:

Package	Table	Change
SETTLEMENT_DATA	SET_ENERGY_TRANSACTIONS	Data type for CASE_ID changed to NUMBER(10,0)
	SET_ENERGY_GENSET_DETAILS	Primary key: SETTLEMENTDATE, VERSIONNO, PERIODID, PARTICIPANTID, STATIONID, DUID, GENSETID
	SETINTRAREGIONRESIDUES	Changed from modified to new columns: ACE_AMOUNT, ASOE_AMOUNT
	SETFCASREGIONRECOVERY	Renamed columns: REGION_ACE_MWH, REGION_ASOE_MWH
	SET_FCAS_RECOVERY	Corrected modified column names: LOWERREG_RECOVERY, RAISEREG_RECOVERY

Package	Table	Change
	SETMARKETFEES	Updated comment for METER_SUBTYPE: The Meter Sub Type values are ACE, ASOE or ALL. ACE represent ACE_MWH value or ASOE represent ASOE_MWH value and ALL represent sum of ACE_MWh and ASOE_MWh
	SET_NMAS_RECOVERY	Renamed columns: PARTICIPANT_ACE_MWH, REGION_ACE_MWH, PARTICIPANT_ASOE_MWH, REGION_ASOE_MWH
BILLING_RUN	BILLING_APC_RECOVERY	Renamed columns: PARTICIPANT_ACE_MWH, REGION_ACE_MWH
	BILLING_DIRECTION_RECON_OTHER	Renamed columns: REGION_ACE_MWH, REGION_ASOE_MWH
	BILLRESERVETRADERRECOVERY	Renamed columns: PARTICIPANT_ACE_MWH, REGION_ACE_MWH
	BILLING_NMAS_TST_RECOVERY	Renamed columns: PARTICIPANT_ACE_MWH, REGION_ACE_MWH, PARTICIPANT_ASOE_MWH, REGION_ASOE_MWH
	BILLING_ENERGY_GENSET_DETAILS	Primary key: CONTRACTYEAR, WEEKNO, BILLRUNNO, STATIONID, DUID, GENSETID
PARTICIPANT_REGISTRATION	DUDETAILSUMMARY	Updated AGD_ID as comment change only
	DISPATCHABLEUNIT	Modified column: UNITTYPE as comment change only

Package	Table	Change
BIDS	BIDDAYOFFER	Primary key: DUID, BIDTYPE, SETTLEMENTDATE, OFFERDATE, DIRECTION
	BIDDAYOFFER_D	Primary key: DUID, BIDTYPE, SETTLEMENTDATE, OFFERDATE, DIRECTION
	BIDOFFERPERIOD	Primary key: DUID, BIDTYPE, TRADINGDATE, OFFERDATETIME, DIRECTION,PERIODID
	BIDPEROFFER_D	Primary key: SETTLEMENTDATE, DUID, BIDTYPE, INTERVAL_DATETIME, DIRECTION
DISPATCH	DISPATCHLOAD	Updated TOTALCLEARED, INITIALMW as comment change only.
P5MIN	P5MIN_UNITSOLUTION	Updated TOTALCLEARED, INITIALMW as comment change only.
PREDISPATCH	PREDISPATCHLOAD	Updated TOTALCLEARED, INITIALMW as comment change only.
PDPASA	PDPASA_REGIONSOLUTION	Updated SEMISCHEDULEDCAPACITY, LOR_ SEMISCHEDULEDCAPACITY as comment change only
STPASA_SOLUTION	STPASA_REGIONSOLUTION	Updated SEMISCHEDULEDCAPACITY, LOR_ SEMISCHEDULEDCAPACITY as comment change only
PD7DAY	PD7DAY_MARKET_SUMMARY	Primary key: RUN_DATETIME, INTERVAL_DATETIME

11.9 V0.01

Initial draft