Electricity Data Model Upgrade Report

AEMO Electricity Data Model v5.4.0 Oracle

7/10/2024

Contents

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1 Description of the model AEMO Electricity Data Model v5.4.0 Oracle

Background

The MMS Data Model is the definition of the interface to participants of data published by AEMO from the NEM system. A database conforming to the MMS Data Model can contain a local copy of all current participant-specific data recorded in the main NEM production database. The target databases have been called such names as the Participant Database, the Participant InfoServer and the Replica Database.

The MMS Data Model includes database tables, indexes and primary keys. The model is currently exposed as a physical model, so is different in presentation for each RDBMS. However, the same logical model underlies all the physical models published by AEMO.

The MMS Data Model is the target model for products transferring data from AEMO to each participant. Current product supplied by AEMO for data transfer is Participant Data Replication (PDR), with some support for the superseded Parser.

Compatibility of the transfer products with the MMS Data Model is the responsibility of those products and their configuration. AEMO's intention is to supply the data transfer products pre-configured to deliver data consistent with the MMS Data Model, noting differences where they occur (e.g. for historical reasons).

Entity Diagrams

The entity diagrams show the key columns. Relationships have now been included in many cases.

Note:

The National Electricity Market registration classification of Yarwun Power Station Unit 1 (dispatchable unit ID: YARWUN_1) is market non-scheduled generating unit. However, it is a condition of the registration of this unit that the Registered Participant complies with some of the obligations of a Scheduled Generator. This unit is dispatched as a scheduled generating unit with respect to its dispatch offers, targets and generation outputs. Accordingly, information about YARWUN_1 is reported as scheduled generating unit information.

2 Notes

Each table description has a Note providing some information relevant to the table.

2.1 Visibility

Visibility refers to the nature of confidentiality of data in the table. Each table has one of the following entries, each described here.

Private: meaning the data is confidential to the Participant (e.g. BILLINGFEES).

Public: meaning all Participants have access to the data (e.g. DISPATCHPRICE).

Private, Public Next-Day: meaning the data is confidential until available for public release at beginning of next day (i.e. 4am) (e.g. BIDDAYOFFER).

Private & Public: meaning some items are private and some are public (e.g. MARKETNOTICES).

3 Package: DEMAND_FORECASTS

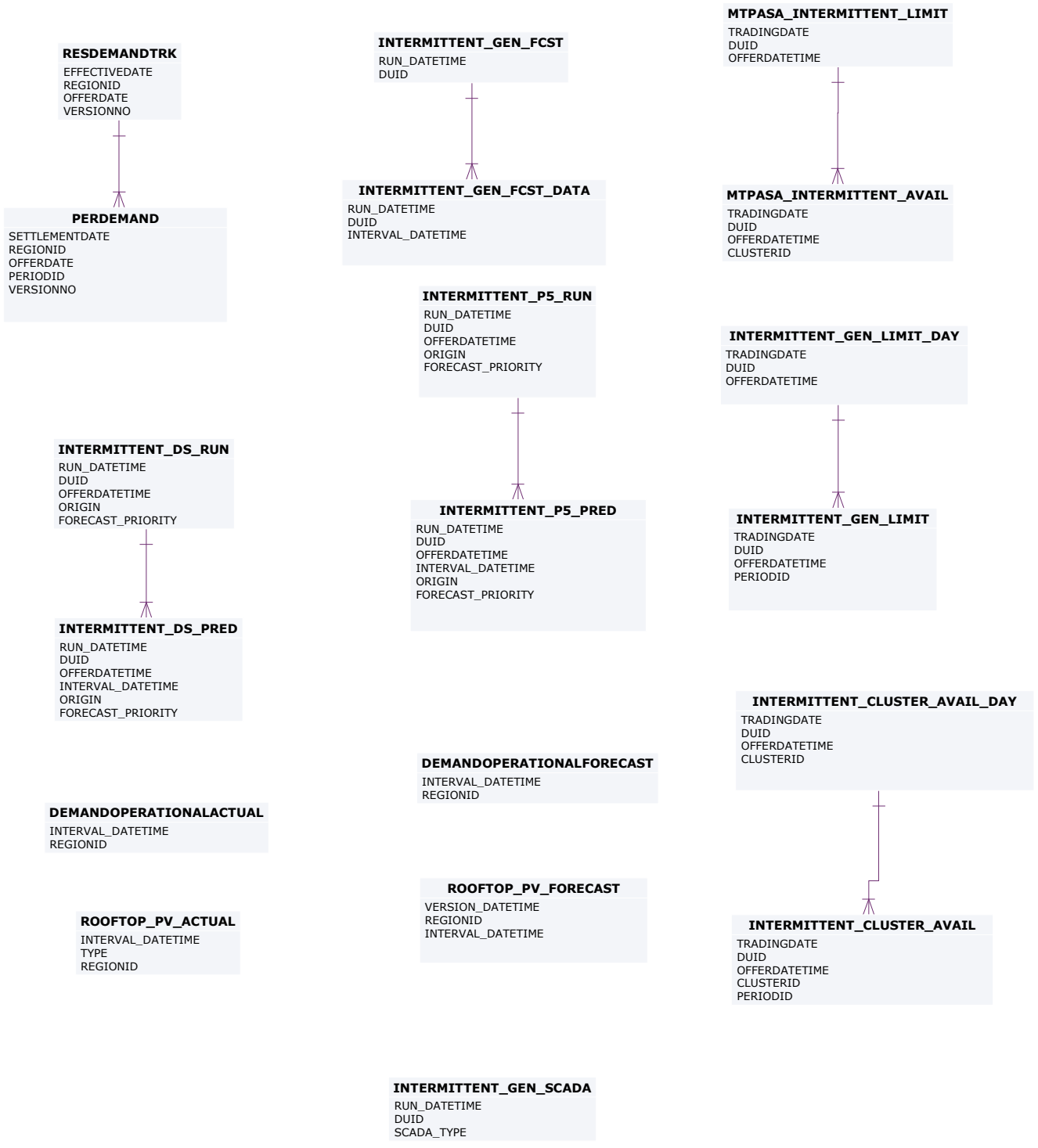
Name DEMAND_FORECASTS

Comment Regional Demand Forecasts and Intermittent Generation forecasts.

3.1 List of tables

Name	Comment
INTERMITTENT_GEN_SCADA	INTERMITTENT_GEN_SCADA provides the SCADA Availability for every intermittent generating unit, including Elements Available (wind turbines/solar inverters) and Local Limit

3.2 Diagram: Entities: Demand Forecasts



3.3 Table: INTERMITTENT_GEN_SCADA

Name	INTERMITTENT_GEN_SCADA
Comment	INTERMITTENT_GEN_SCADA provides the SCADA Availability for every intermittent generating unit, including Elements Available (wind turbines/solar inverters) and Local Limit

3.3.1 Notes

Name	Comment	Value
Visibility		Private & Public Next-Day

3.3.2 Primary Key Columns

Name

DUID

RUN_DATETIME

SCADA_TYPE

3.3.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	Date Time of the dispatch interval (interval ending)
DUID	VARCHAR2(20)	X	Dispatchable Unit Identifier
SCADA_TYPE	VARCHAR2(20)	X	SCADA snapshot for intermittent generating unit at start of interval for a specified SCADA signal type. ELAV = Total Elements Available (#

			turbines for wind farms, # inverters for solar farms); LOCL = Local Limit (MW).
SCADA_VALUE	NUMBER(15,5)		SCADA value snapshot for intermittent generating unit at start of interval for a specified SCADA signal type.
SCADA_QUALITY	VARCHAR2(20)		SCADA quality snapshot for intermittent generating unit at start of interval for a specified SCADA signal type.
LASTCHANGED	DATE		Last date and time record changed

4 Package: DISPATCH

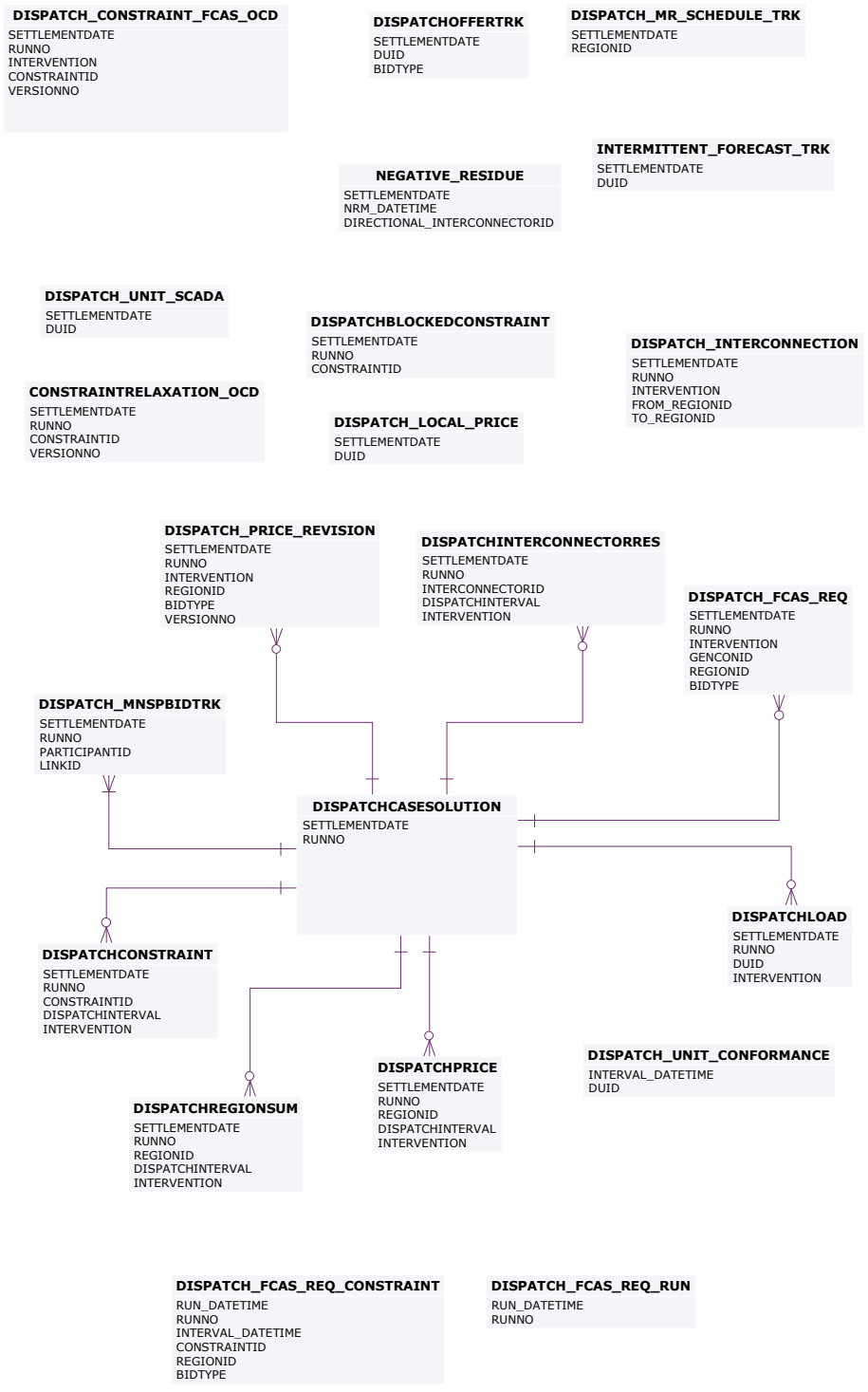
Name DISPATCH

Comment Results from a published Dispatch Run

4.1 List of tables

Name	Comment
DISPATCH_FCAS_REQ_CONSTRAINT	The constraint level FCAS cost / price details for constraint FCAS processor runs. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.
DISPATCH_FCAS_REQ_RUN	The constraint FCAS processor run details. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.
DISPATCH_UNIT_SCADA	Dispatchable unit MW from SCADA at the start of the dispatch interval. The table includes all scheduled and semi-scheduled (and non-scheduled units where SCADA is available)

4.2 Diagram: Entities: Dispatch



4.3 Table: DISPATCH_FCAS_REQ_CONSTRAINT

Name	DISPATCH_FCAS_REQ_CONSTRAINT
Comment	The constraint level FCAS cost / price details for constraint FCAS processor runs. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

4.3.1 Notes

Name	Comment	Value
Visibility		Public

4.3.2 Primary Key Columns

Name

BIDTYPE

CONSTRAINTID

INTERVAL_DATETIME

REGIONID

RUN_DATETIME

RUNNO

4.3.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	The run date and time of the dispatch case that triggers the

			constraint FCAS processor run
RUNNO	NUMBER(5)	X	The dispatch case run number that has triggers the constraint FCAS processor run
INTERVAL_DATETIME	DATE	X	The trading interval date and time of the dispatch interval that was processed by the constraint FCAS processor
CONSTRAINTID	VARCHAR2(20)	X	ConstraintID join to table GenConData
REGIONID	VARCHAR2(20)	X	Region identifier
BIDTYPE	VARCHAR2(10)	X	DUID offered type
LHS	NUMBER(15,5)		Constraints summed LHS - aggregate LHS Solution values from the physical run from the DISPATCHCONSTRAINT table
RHS	NUMBER(15,5)		Constraints RHS value used in the solution - may be either dynamic (calculated) or static from the physical run from the DISPATCHCONSTRAINT table
MARGINALVALUE	NUMBER(15,5)		Shadow price of constraint from the DISPATCHCONSTRAINT table from the physical run.
RRP	NUMBER(15,5)		Bid type prices for the region coming from the pricing run of the DISPATCHREGIONSUM table
REGIONAL_ENABLEMENT	NUMBER(15,5)		The dispatched MW for the bid type inside the region from the physical run of the

			DISPATCHREGIONSUM table
CONSTRAINT_ENABLEMENT	NUMBER(15,5)		MW enabled for this bid type within the constraint
REGION_BASE_COST	NUMBER(18,8)		The regional payment allocated to the constraint for the interval pro-rated based on marginal value ratios over the binding constraints for that service in that region (this is an intermediate calculation to get to the base cost)
BASE_COST	NUMBER(18,8)		The base cost of the constraint, before the regulation/contingency split
ADJUSTED_COST	NUMBER(18,8)		The adjusted cost of the constraint for this service, after the regulation/contingency split
P_REGULATION	NUMBER(18,8)		The adjusted marginal value of the constraint for FPP recovery (blank for constraints without REG terms)

4.4 Table: DISPATCH_FCAS_REQ_RUN

Name DISPATCH_FCAS_REQ_RUN

Comment The constraint FCAS processor run details. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

4.4.1 Notes

Name	Comment	Value
Visibility		Public

4.4.2 Primary Key Columns

Name
RUN_DATETIME
RUNNO

4.4.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	The run date and time of the dispatch case that triggers the constraint FCAS processor run
RUNNO	NUMBER(5)	X	The dispatch case run number that has triggers the constraint FCAS processor run
LASTCHANGED	DATE		The last time the constraint FCAS processor was executed for this case run time.

4.5 Table: DISPATCH_UNIT_SCADA

Name	DISPATCH_UNIT_SCADA
Comment	Dispatchable unit MW from SCADA at the start of the dispatch interval. The table includes all scheduled and semi-scheduled (and non-scheduled units where SCADA is available)

4.5.1 Description

DISPATCH_UNIT_SCADA data is public data, and is available to all participants.

Source

DISPATCH_UNIT_SCADA shows data for every 5 minutes for all scheduled units

Volume

Rows per day: 288 per each scheduled, semi-scheduled (and non-scheduled unit where SCADA is available)

4.5.2 Notes

Name	Comment	Value
Visibility		Public

4.5.3 Primary Key Columns

Name
DUID
SETTLEMENTDATE

4.5.4 Index Columns

Name
SETTLEMENTDATE
DUID

4.5.5 Content

Name	Data Type	Mandatory	Comment
SETTLEMENTDATE	Date	X	Date Time of the Dispatch Interval
DUID	varchar2(20)	X	Dispatchable Unit Identifier
SCADAVALUE	Number(16,6)		Instantaneous MW reading from SCADA at the start of the Dispatch interval
LASTCHANGED	DATE		Last date and time record changed

5 Package: P5MIN

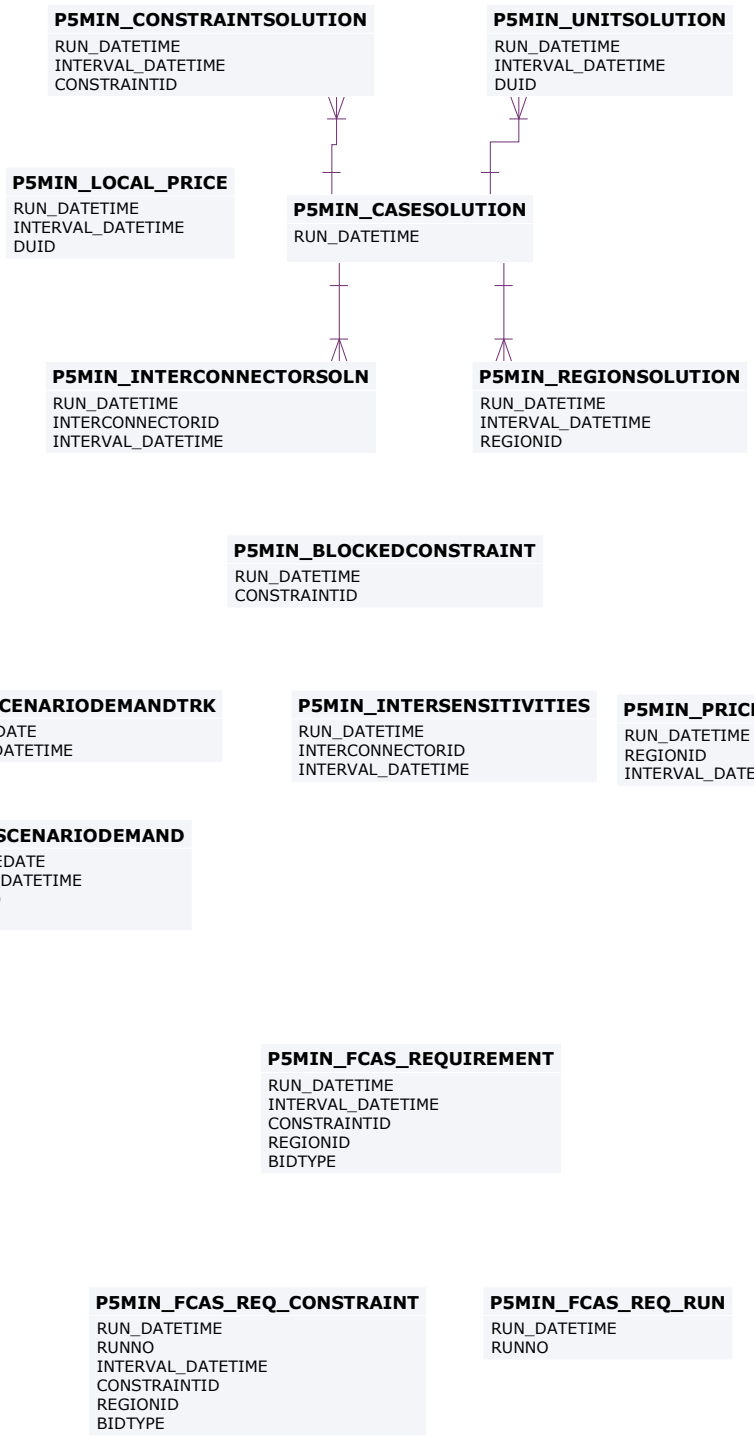
Name P5MIN

Comment Results from a published Five-Minute Predispatch Run

5.1 List of tables

Name	Comment
P5MIN_FCAS_REQ_CONSTRAINT	The constraint level FCAS cost / price details for constraint FCAS processor runs. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.
P5MIN_FCAS_REQ_RUN	The constraint FCAS processor run details. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

5.2 Diagram: Entities: P5MIN



5.3 Table: P5MIN_FCAS_REQ_CONSTRAINT

Name	P5MIN_FCAS_REQ_CONSTRAINT
Comment	The constraint level FCAS cost / price details for constraint FCAS processor runs. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

5.3.1 Notes

Name	Comment	Value
Visibility		Public

5.3.2 Primary Key Columns

Name

BIDTYPE

CONSTRAINTID

INTERVAL_DATETIME

REGIONID

RUN_DATETIME

RUNNO

5.3.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	The run date and time of the 5 minute predispatch case that

			triggers the constraint FCAS processor run
RUNNO	NUMBER(5)	X	The 5 minute predispatch case run number that has triggers the constraint FCAS processor run
INTERVAL_DATETIME	DATE	X	The 5 minute interval date and time of the 5 minute predispatch interval that was processed by the constraint FCAS processor
CONSTRAINTID	VARCHAR2(20)	X	ConstraintID join to table GenConData
REGIONID	VARCHAR2(20)	X	Region identifier
BIDTYPE	VARCHAR2(10)	X	DUID offered type
LHS	NUMBER(15,5)		Constraints summed LHS - aggregate LHS Solution values from the physical run from the P5MIN_CONSTRAINTSOLUTION table
RHS	NUMBER(15,5)		Constraints RHS value used in the solution - may be either dynamic (calculated) or static from the physical run from the P5MIN_CONSTRAINTSOLUTION table
MARGINALVALUE	NUMBER(15,5)		Shadow price of constraint from the P5MIN_CONSTRAINTSOLUTION table from the physical run.
RRP	NUMBER(15,5)		Bid type prices for the region coming from the pricing run of the P5MIN_REGIONSOLUTION table

REGIONAL_ENABLEMENT	NUMBER(15,5)		The dispatched MW for the bid type inside the region from the physical run of the P5MIN_REGIONSOLUTION table
CONSTRAINT_ENABLEMENT	NUMBER(15,5)		MW enabled for this bid type within the constraint
REGION_BASE_COST	NUMBER(18,8)		The regional payment allocated to the constraint for the interval pro-rated based on marginal value ratios over the binding constraints for that service in that region (this is an intermediate calculation to get to the base cost)
BASE_COST	NUMBER(18,8)		The base cost of the constraint, before the regulation/contingency split
ADJUSTED_COST	NUMBER(18,8)		The adjusted cost of the constraint for this service, after the regulation/contingency split
P_REGULATION	NUMBER(18,8)		The adjusted marginal value of the constraint for FPP recovery (blank for constraints without REG terms)

5.4 Table: P5MIN_FCAS_REQ_RUN

Name P5MIN_FCAS_REQ_RUN

Comment The constraint FCAS processor run details. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

5.4.1 Notes

Name	Comment	Value
Visibility		Public

5.4.2 Primary Key Columns

Name

RUN_DATETIME

RUNNO

5.4.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	The run date and time of the 5 minute predispatch case that triggers the constraint FCAS processor run
RUNNO	NUMBER(5)	X	The 5 minute predispatch case run number that has triggers the constraint FCAS processor run
LASTCHANGED	DATE		The last time the constraint FCAS processor was executed for this

			case run time.

6 Package: PARTICIPANT_REGISTRATION

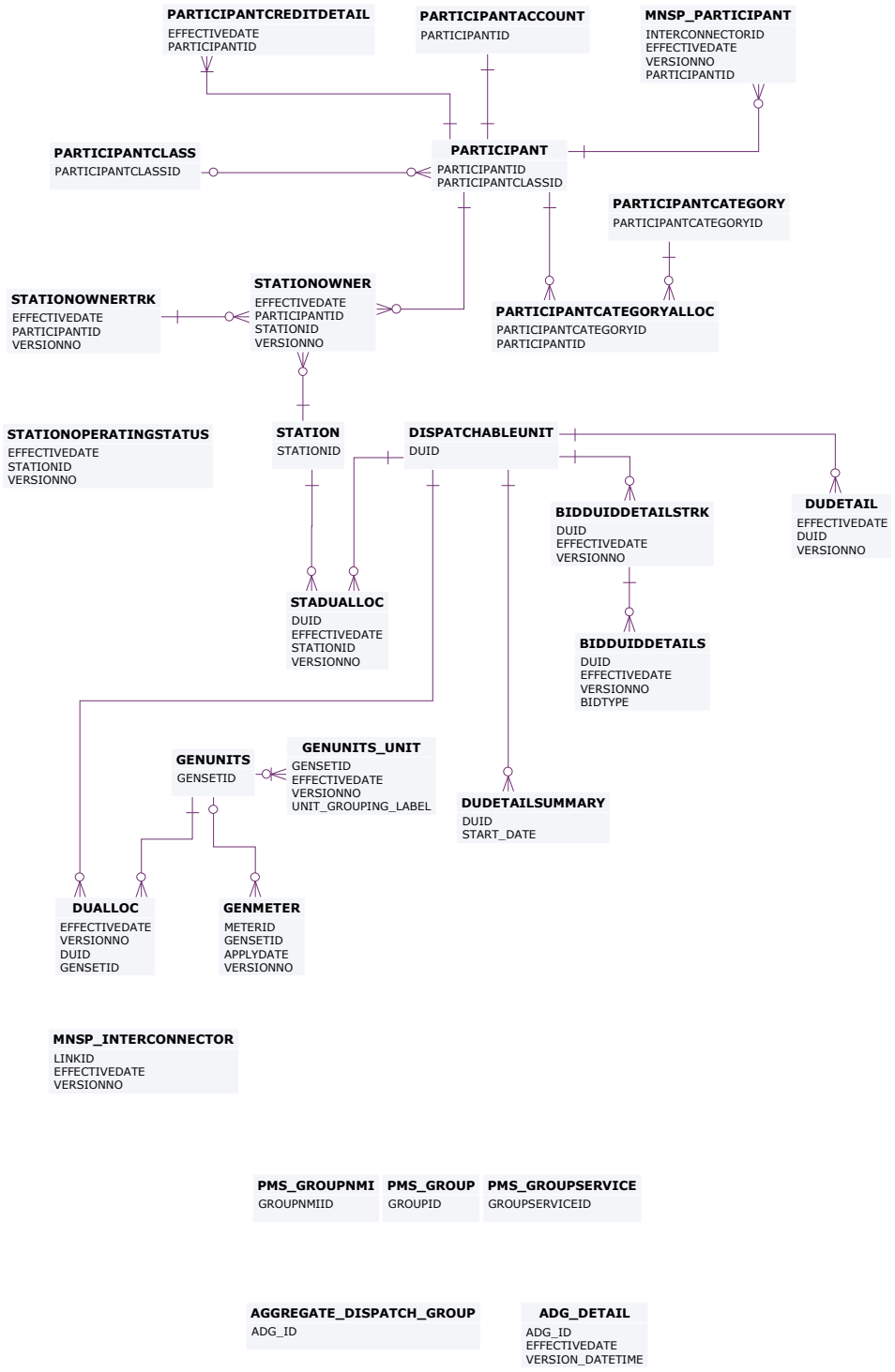
Name PARTICIPANT_REGISTRATION

Comment Participant registration data

6.1 List of tables

Name	Comment
DUDETAIL	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.
GENUNITS_UNIT	Physical units within a Gen Unit Set

6.2 Diagram: Entities: Participant Registration



6.3 Table: DUDETAIL

Name	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.

6.3.1 Description

DUDETAIL is public data, and is available to all participants.

Source

DUDETAIL updates only when registration details change.

Note

To find the current set of details for selected dispatchable units, query the participant's local database as follows.

```
Select du.* from dudetail du
where (du.EFFECTIVEDATE, du.VERSIONNO) =
(
select effectivedate, max(versionno)
from dudetail
where EFFECTIVEDATE = (select max(effectivedate)
from  dudetail
where EFFECTIVEDATE <= sysdate
and duid = du.duid
and authoriseddate is not null)
and duid = du.duid
and authoriseddate is not null
group by effectivedate
)
and du.duid in ('UNIT1', 'UNIT2')
;
```

The following notes apply to this SQL code:

- This table is specific to dispatch units only.
- If you wish to query details for a different date, substitute a date expression for "sysdate" in the "where EFFECTIVEDATE <= sysdate" clause.
- If you wish to list all the units, remove the line "and du.duid in ('UNIT1', 'UNIT2')"
- The DUDETAIL table does not indicate if a unit is active; this is done through ownership (STADUALLOC) by an active station owned by an active participant (STATIONOWNER)
- If you wish to query Station details refer to STATION, STATIONOWNER and STADUALLOC.
- If you wish to look at connection point loss factors, refer to TRANSMISSIONLOSSFACTOR.

6.3.2 Notes

Name	Comment	Value
Visibility		Public

6.3.3 Primary Key Columns

Name

DUID

EFFECTIVEDATE

VERSIONNO

6.3.4 Index Columns

Name

LASTCHANGED

6.3.5 Content

Name	Data Type	Mandatory	Comment
EFFECTIVEDATE	DATE	X	Effective calendar date of record
DUID	VARCHAR2(10)	X	Dispatchable Unit Identifier
VERSIONNO	NUMBER(3,0)	X	version of Dispatchable Unit details for this effective date
CONNECTIONPOINTID	VARCHAR2(10)		Country wide - Unique id of a connection point
VOLTLEVEL	VARCHAR2(10)		Voltage Level

REGISTEREDCAPACITY	NUMBER(6,0)		Registered capacity for normal operations
AGCCAPABILITY	VARCHAR2(1)		AGC Capability flag
DISPATCHTYPE	VARCHAR2(20)		Identifies LOAD, GENERATOR or BIDIRECTIONAL.
MAXCAPACITY	NUMBER(6,0)		Maximum Capacity as used for bid validation
STARTTYPE	VARCHAR2(20)		Identify unit as Fast or Slow
NORMALLYONFLAG	VARCHAR2(1)		For a dispatchable load indicates that the load is normally on or off.
PHYSICALDETAILSFLAG	VARCHAR2(1)		Indicates that the physical details for this unit are to be recorded
SPINNINGRESERVEFLAG	VARCHAR2(1)		Indicates spinning reserve capability
AUTHORISEDBY	VARCHAR2(15)		User authorising record
AUTHORISEDDATE	DATE		Date record authorised
LASTCHANGED	DATE		Last date and time record changed
INTERMITTENTFLAG	VARCHAR(1)		Indicate whether a unit is intermittent (e.g. a wind farm)
SemiSchedule_Flag	VARCHAR2(1)		Indicates if the DUID is a Semi-Scheduled Unit
MAXRATEOFCHANGEUP	Number(6,0)		Maximum ramp up rate for Unit (Mw/min)
MAXRATEOFCHANGEDOWN	Number(6,0)		Maximum ramp down rate for Unit (Mw/min)
DISPATCHSUBTYPE	VARCHAR2(20		Additional information for

	)		DISPATCHTYPE. For DISPATCHTYPE = LOAD, subtype value is WDR for wholesale demand response units. For DISPATCHTYPE = LOAD, subtype value is NULL for Scheduled Loads. For DISPATCHTYPE = GENERATOR type, the subtype value is NULL.
ADG_ID	VARCHAR2(20)		Aggregate Dispatch Group to which this dispatch unit belongs
MINCAPACITY	NUMBER(6,0)		Minimum capacity only for load side of BDU, otherwise 0 (MW)
REGISTEREDMINCAPACITY	NUMBER(6,0)		Registered minimum capacity only for load side of BDU, otherwise 0 (MW)
MAXRATEOFCHANGEUP_LOAD	NUMBER(6,0)		Raise Ramp rate applied to BDU Load component (MW/min)
MAXRATEOFCHANGEDOWN_LOAD	NUMBER(6,0)		Lower Ramp rate applied to BDU Load component (MW/min)
MAXSTORAGECAPACITY	NUMBER(15,5)		The rated storage capacity (MWh), information only
STORAGEIMPORTEFFICIENCYFACTOR	NUMBER(15,5)		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)		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)		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)		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)		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)		Calculated Minimum Ramp Rate Down value accepted for Energy Offers or Bids on BDU Load component with explanation for energy imports (MW/min)
AGGREGATED	NUMBER(1,0)		Identifies if a unit is aggregated. This flag was initially added in GENUNITS_UNIT table which is now deprecated with IESS release.

6.4 Table: GENUNITS_UNIT

Name	GENUNITS_UNIT
Comment	Physical units within a Gen Unit Set

6.4.1 Notes

Name	Comment	Value
Visibility		Public

6.4.2 Primary Key Columns

Name

EFFECTIVEDATE

GENSETID

UNIT_GROUPING_LABEL

VERSIONNO

6.4.3 Index Columns

Name

GENSETID

EFFECTIVEDATE

VERSIONNO

UNIT_GROUPING_LABEL

6.4.4 Content

Name	Data Type	Manda	Comment

		tory	
GENSETID	VARCHAR2(20)	X	System wide unique Generating Set ID
EFFECTIVEDATE	DATE	X	Effective Date of this detail record
VERSIONNO	NUMBER(6,0)	X	Version with respect to the effective date
UNIT_GROUPING_LABEL	VARCHAR2(20)	X	Label of Physical Units within the station
UNIT_COUNT	NUMBER(10,0)		Number of units in this Gen Unit grouping
UNIT_SIZE	NUMBER(8,3)		Nameplate Capacity for each unit in this grouping
UNIT_MAX_SIZE	NUMBER(8,3)		Maximum Capacity for each unit in this grouping
AGGREGATION_FLAG	NUMBER(1,0)		Deprecated as this flag is moved to DUDETAIL table with IESS release.
LASTCHANGED	DATE		Date/Time when record was changed
UNITMINSIZE	NUMBER(8,3)		Only applicable for the LOAD side of BDU (MW)
MAXSTORAGECAPACITY	NUMBER(15,5)		The rated storage capacity (MWh), information only
REGISTEREDCAPACITY	NUMBER(8,3)		Registered capacity for normal operations
REGISTEREDMINCAPACITY	NUMBER(8,3)		Only applicable for the LOAD side of BDU (MW)

7 Package: PRE_DISPATCH

Name PRE_DISPATCH

Comment Results from a published Predispatch Run

Storage options

There are 2 ways to define the Pre-dispatch table primary keys (PKs) to define which data is loaded to the database and which data is retained:

Option 1 (default)

Overwrite older records when they are succeeded by later versions for the same entity and period. This is the Data Model default and results in the consumption of far less storage. Data Model updates issued by AEMO target this configuration so participants implementing option 2a or 2b must maintain their changes when AEMO releases a new Data Model version.

PredispatchLoad: DateTime, DUID

PredispatchInterconnectorRes: DateTime, InterconnectorID,

PredispatchPrice: DateTime, RegionID

PredispatchPriceSensitivities: DateTime, RegionID

PredispatchInterSensitivities: InterconnectorID, DateTime

PredispatchRegionsum: DateTime, RegionID

Option 2a

Retain only the Pricing records for tables relating to Price data and Physical records for tables relating to Physical data (e.g. targets). Approximately 50 times more storage volumes than option 1.

PredispatchLoad: PredispatchSeqNo, DateTime, DUID

PredispatchInterconnectorRes: PredispatchSeqNo, DateTime, InterconnectorID,

PredispatchPrice: PredispatchSeqNo, DateTime, RegionID

PredispatchPriceSensitivities: PredispatchSeqNo, DateTime, RegionID

PredispatchInterSensitivities: PredispatchSeqNo, DateTime, InterconnectorID

PredispatchRegionsum: PredispatchSeqNo, DateTime, RegionID

Option 2b

Retain both Physical and Pricing data for Intervention runs. If Intervention

cases are stored in entirety, you must select the data carefully. The logic is the same as for Dispatch, i.e. Intervention Pricing is always where Intervention = 0 and Physical data is where Intervention = PredispatchCaseSolution.Intervention for the same PredispatchSeqNo.

Doubles the storage of option 2a but ONLY for Intervened cases.

PredispatchLoad: PredispatchSeqNo, Intervention, DateTime, DUID

PredispatchInterconnectorRes: PredispatchSeqNo, Intervention,DateTime, InterconnectorID,

PredispatchPrice: PredispatchSeqNo, Intervention, DateTime, RegionID

PredispatchPriceSensitivities: PredispatchSeqNo, Intervention, DateTime, RegionID

PredispatchInterSensitivities: PredispatchSeqNo, Intervention, DateTime, InterconnectorID

PredispatchRegionsum: PredispatchSeqNo, Intervention, DateTime, RegionID

Notes:

The data in the PredispatchIS file is always ordered so the pdrLoader writes the relevant data first and discards the subsequent irrelevant data, or writes the subsequent data, depending on how the PKs are defined.

You may order the PKs in a different order, depending on your local requirements. Any decision to change the PK column composition or order must consider the functional and performance impacts to existing applications or queries.

The pdrLoader caches PK definitions for performance reasons so any change to the PKs requires a restart of the application.

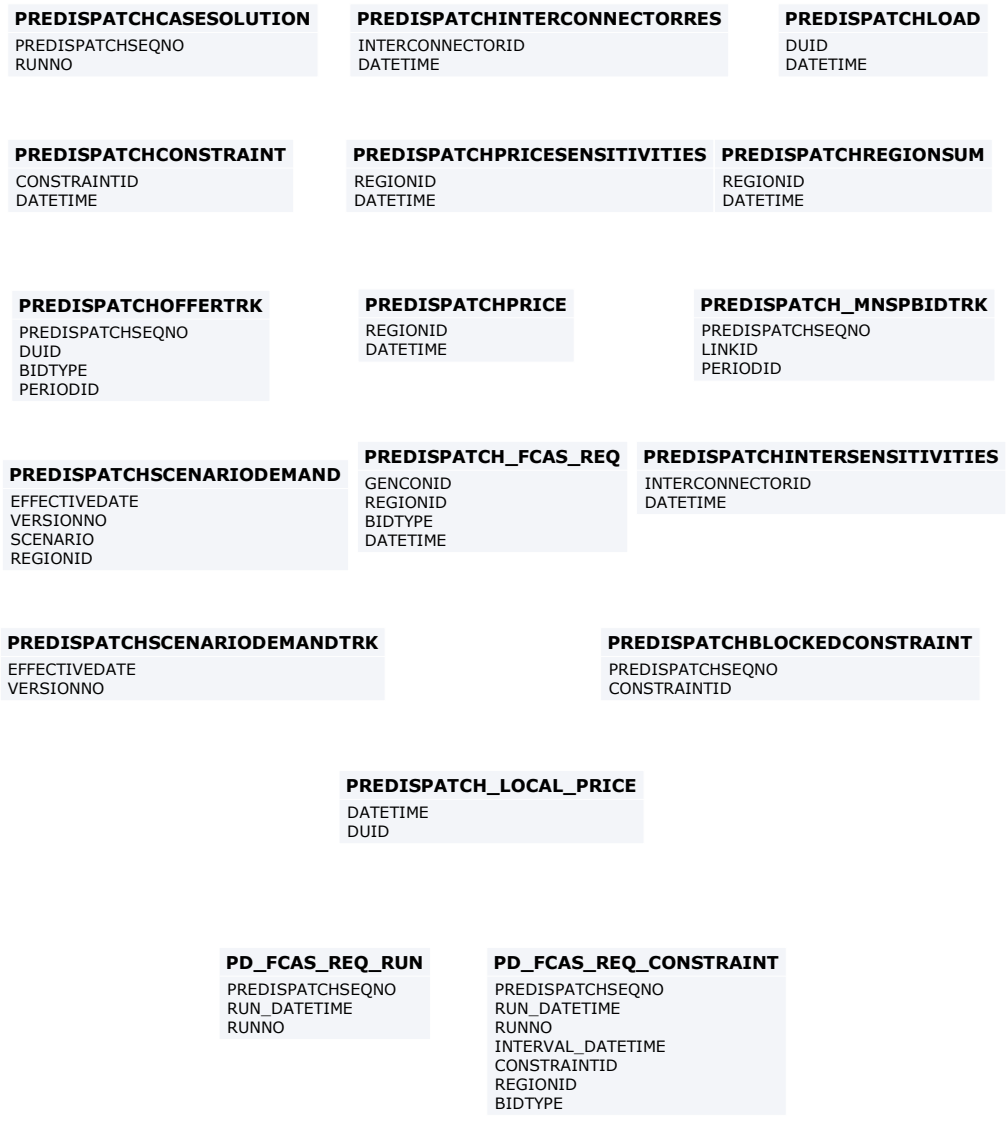
The TRANSACTION_TYPE default in the PDR_REPORT_RECORDS management tables for PREDISPATCH* tables is UPDATE-INSERT. You can modify this to INSERT for Option 2b, as the attempt to first perform an update becomes redundant. This can improve load performance.

7.1 List of tables

Name	Comment
PD_FCAS_REQ_CONSTRAINT	The constraint level FCAS cost / price details for constraint FCAS processor runs. This enhanced output

	table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.
PD_FCAS_REQ_RUN	The constraint FCAS processor run details. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

7.2 Diagram: Entities: Predispatch



7.3 Table: PD_FCAS_REQ_CONSTRAINT

Name	PD_FCAS_REQ_CONSTRAINT
Comment	The constraint level FCAS cost / price details for constraint FCAS processor runs. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

7.3.1 Notes

Name	Comment	Value
Visibility		Public

7.3.2 Primary Key Columns

Name

BIDTYPE

CONSTRAINTID

INTERVAL_DATETIME

PREDISPATCHSEQNO

REGIONID

RUN_DATETIME

RUNNO

7.3.3 Content

Name	Data Type	Mandatory	Comment

PREDISPATCHSEQNO	VARCHAR2(20)	X	Predispatch sequence number for the 30 minute predispatch case that triggers the constraint FCAS processor run
RUN_DATETIME	DATE	X	The run date and time of the 30 minute predispatch case that triggers the constraint FCAS processor run
RUNNO	NUMBER(5)	X	The 30 minute predispatch case run number that has triggers the constraint FCAS processor run
INTERVAL_DATETIME	DATE	X	The 30 minute interval date and time of the 30 minute predispatch interval that was processed by the constraint FCAS processor
CONSTRAINTID	VARCHAR2(20)	X	ConstraintID join to table GenConData
REGIONID	VARCHAR2(20)	X	Region identifier
BIDTYPE	VARCHAR2(10)	X	DUID offered type
LHS	NUMBER(15,5)		Constraints summed LHS - aggregate LHS Solution values from the physical run from the PREDISPATCHCONSTRAINT table
RHS	NUMBER(15,5)		Constraints RHS value used in the solution - may be either dynamic (calculated) or static from the physical run from the PREDISPATCHCONSTRAINT table
MARGINALVALUE	NUMBER(15,5)		Shadow price of constraint from the PREDISPATCHCONSTRAINT

			table from the physical run.
RRP	NUMBER(15,5)		Bid type prices for the region coming from the pricing run of the PREDISPATCHREGIONSUM table
REGIONAL_ENABLEMENT	NUMBER(15,5)		The dispatched MW for the bid type inside the region from the physical run of the PREDISPATCHREGIONSUM table
CONSTRAINT_ENABLEMENT	NUMBER(15,5)		MW enabled for this bid type within the constraint
REGION_BASE_COST	NUMBER(18,8)		The regional payment allocated to the constraint for the interval pro-rated based on marginal value ratios over the binding constraints for that service in that region (this is an intermediate calculation to get to the base cost)
BASE_COST	NUMBER(18,8)		The base cost of the constraint, before the regulation/contingency split
ADJUSTED_COST	NUMBER(18,8)		The adjusted cost of the constraint for this service, after the regulation/contingency split
P_REGULATION	NUMBER(18,8)		The adjusted marginal value of the constraint for FPP recovery (blank for constraints without REG terms)

7.4 Table: PD_FCAS_REQ_RUN

Name PD_FCAS_REQ_RUN

Comment The constraint FCAS processor run details. This enhanced output table format is established for the constraint FCAS processor release required for the Frequency Performance Payments (FPP) release. This enhanced output is hierarchical in nature, with the parent *_FCAS_REQ_RUN table holding the details about the triggering case run and time, and the child *_FCAS_REQ_CONSTRAINT table holding the constraint level details of FCAS costs / prices.

7.4.1 Notes

Name	Comment	Value
Visibility		Public

7.4.2 Primary Key Columns

Name

PREDISPATCHSEQNO

RUN_DATETIME

RUNNO

7.4.3 Content

Name	Data Type	Mandatory	Comment
PREDISPATCHSEQNO	VARCHAR2(20)	X	Predispatch sequence number for the 30 minute predispatch case that triggers the constraint FCAS processor run
RUN_DATETIME	DATE	X	The run date and time of the 30 minute predispatch case that triggers the constraint FCAS processor run

RUNNO	NUMBER(5)	X	The 30 minute predispatch case run number that has triggers the constraint FCAS processor run
LASTCHANGED	DATE		The last time the constraint FCAS processor was executed for this case run time.

8 Package: FPP

Name FPP

Comment Results from a published Frequency Performance Payments (FPP) Run. The FPP calculation runs performs every trading interval (typically 5 minutes, but different for P5MIN / PREDISPATCH) and input data feeding into the calculations. The output data from the calculations is published on that same interval. There are some tables that operate on different frequencies (e.g. P5MIN / PREDISPATCH) as well as some data becoming public the following market day. For further details please see the FPP procedure and supporting documentation.

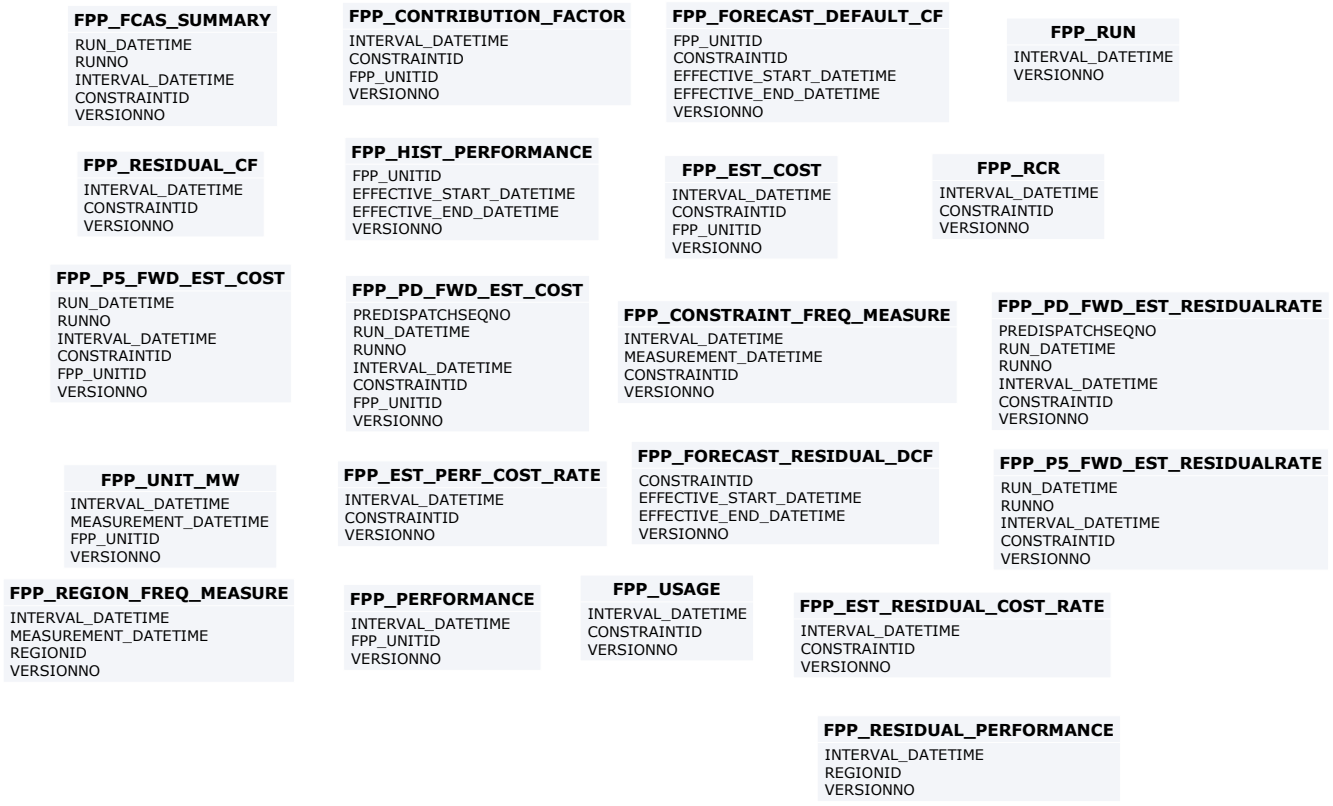
8.1 List of tables

Name	Comment
FPP_CONSTRAINT_FREQ_MEASURE	This report delivers the weighted 4 second frequency measure data for each constraint
FPP_CONTRIBUTION_FACTOR	This report delivers the calculated contribution factor value for each 5 minute trading interval for each constraint and FPP unit
FPP_EST_COST	This report delivers the estimated cost for each FPP unit for each constraint for each 5 minute trading interval
FPP_EST_PERF_COST_RATE	This report delivers the estimated performance cost rate for each constraint for each 5 minute trading interval
FPP_EST_RESIDUAL_COST_RATE	This report delivers the estimated residual cost rate for each constraint for each 5 minute trading interval
FPP_FCAS_SUMMARY	This report delivers a summary of FCAS requirements as used by the FPP calculation (i.e. only RAISEREG / LOWERREG bid types)
FPP_FORECAST_DEFAULT_CF	This report delivers the forecast default contribution factors (DCF) effective for a billing period (aligned to the settlement week)
FPP_FORECAST_RESIDUAL_DCF	This report delivers the forecast residual default

	contribution factors (DCF) effective for a billing period (aligned to the settlement week)
FPP_HIST_PERFORMANCE	This report delivers the historical performance calculated based on a historical period and effective for a billing period (aligned to the settlement week)
FPP_P5_FWD_EST_COST	This report delivers the forward estimated unit cost based on P5min runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 5 minute pre-dispatch interval.
FPP_P5_FWD_EST_RESIDUALRATE	This report delivers the forward estimated residual cost rate based on P5min runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 5 minute pre-dispatch interval.
FPP_PD_FWD_EST_COST	This report delivers the forward estimated unit cost based on PREDISPATCH runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 30 minute pre-dispatch interval.
FPP_PD_FWD_EST_RESIDUALRATE	This report delivers the forward estimated residual cost rate based on PREDISPATCH runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 30 minute pre-dispatch interval.
FPP_PERFORMANCE	This report delivers the calculated performance value for each 5 minute trading interval for each FPP unit
FPP_RCR	This report delivers the calculated RCR for each constraint for each 5 minute trading interval
FPP_REGION_FREQ_MEASURE	This report delivers the curated 4 second frequency deviation and frequency measure data for each region
FPP_RESIDUAL_CF	This report delivers the calculated residual contribution factor value for each 5 minute trading interval for each

	constraint
FPP_RESIDUAL_PERFORMANCE	This report delivers the calculated residual performance value for each 5 minute trading interval
FPP_RUN	This report delivers details of the 5-minute FPP calculation engine success failure outcome saved in FPP database
FPP_UNIT_MW	This report delivers the curated 4 second measurement MW data for each FPP unit
FPP_USAGE	This report delivers the calculated usage for each constraint for each 5 minute trading interval

8.2 Diagram: Entities: FPP



8.3 Table: FPP_CONSTRAINT_FREQ_MEASURE

Name	FPP_CONSTRAINT_FREQ_MEASURE
Comment	This report delivers the weighted 4 second frequency measure data for each constraint

8.3.1 Notes

Name	Comment	Value
Visibility		Public

8.3.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

MEASUREMENT_DATETIME

VERSIONNO

8.3.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
MEASUREMENT_DATETIME	DATE	X	Date and time of the SCADA data (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)

CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
FM_RAISE_HZ	NUMBER(18,8)		Calculated 4 second Frequency Measure in Hz for that constraint from the FPP database. Frequency Measure data is split across these two raise and lower columns in the following ways: >0 = Allocated to the FM_RAISE_HZ column <0 = Allocated to the FM_LOWER_HZ column 0 = To fill any gaps where the alternative column is not applicable (or no deviation from 50 Hz)
FM_LOWER_HZ	NUMBER(18,8)		Calculated 4 second Frequency Measure in Hz for that constraint from the FPP database. Frequency Measure data is split across these two raise and lower columns in the following ways: >0 = Allocated to the FM_RAISE_HZ column <0 = Allocated to the FM_LOWER_HZ column 0 = To fill any gaps where the alternative column is not applicable (or no deviation from 50 Hz)
USED_IN_RCR_FLAG	NUMBER(5)		Flag to indicate the result of the Frequency Measure alignment check between Mainland and Tasmania for global constraints.

			Supported values are: 0 = Not used in RCR calculation as the signs for the frequency measures between Mainland and Tasmania do not align 1 = Used in the RCR calculation as the signs for the frequency measures between Mainland and Tasmania do align in the case of global constraints. For non-global constraints this flag is set to 1
CORRELATION_FLAG	NUMBER(5)		Flag to indicate the result of the Frequency Measure correlation check between regions in the same constraint. Supported values are: 0 = Frequency measures in this constraint are not correlated (e.g. system separation between two regions) 1 = Frequency measures in this constraint are correlated

8.4 Table: FPP_CONTRIBUTION_FACTOR

Name	FPP_CONTRIBUTION_FACTOR
Comment	This report delivers the calculated contribution factor value for each 5 minute trading interval for each constraint and FPP unit

8.4.1 Notes

Name	Comment	Value
Visibility		Private & Public Next-Day

8.4.2 Primary Key Columns

Name
CONSTRAINTID
FPP_UNITID
INTERVAL_DATETIME
VERSIONNO

8.4.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)

FPP_UNITID	VARCHAR2(20)	X	FPP Unit ID (registered DUID/ TNI)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
CONTRIBUTION_FACTOR	NUMBER(18,8)		Contribution Factor (the calculated contribution factor for the FPP unit and constraint ID for that trading interval) - for further details please see the FPP procedure document
NEGATIVE_CONTRIBUTION_FACTOR	NUMBER(18,8)		Negative Contribution Factor (the calculated negative contribution factor for the FPP unit and constraint ID for that trading interval) - for further details please see the FPP procedure document
DEFAULT_CONTRIBUTION_FACTOR	NUMBER(18,8)		The Default Contribution Factor (the calculated default contribution factor based on historical performance for the FPP unit and constraint ID for that trading interval) that is effective for this trading interval, which joins back to FPP_FORECAST_DEFAULT_CF - for further details please see the FPP procedure document
CF_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the contribution factor (CF) Supported values are: 0 = CF is calculated based on good input data 1 = CF is 0 because it is not primary in the group 2 = CF is not for the DUID but for the whole

			group 4 = CF is calculated based on substitute performance 8 = CF is 0 because FM is unreliable. 16 = CF is 0 because more than 50 percent input is bad or not available.
CF_ABS_POSITIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute positive performance in MWHz for the combination of constraint / bid type (raise or lower). This is used as the denominator in normalising contribution factors (CF) where a units performance is positive. For further details please see the FPP procedure document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable
CF_ABS_NEGATIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute negative performance in MWHz for the combination of constraint / bid type (raise or lower). This is used as the denominator in normalising contribution factors (CF) where a units performance is negative. For further details please see the FPP procedure document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable
NCF_ABS_NEGATIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute negative performance in MWHz for the combination of constraint / bid type (raise or lower). This is used as the denominator in normalising negative contribution factors (NCF). For further details please see the FPP procedure

			document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable 0 = When NCF is zero (i.e. CF is positive), then this total will be represented as zero
PARTICIPANTID	VARCHAR2(20)		Participant ID
SETTLEMENTS_UNITID	VARCHAR2(20)		The Settlements Unit ID (registered DUID / TNI) Note that this SETTLEMENTS_UNITID is what is sent and used by the Settlements system, and may be different from the FPP_UNITID for non- scheduled loads where the FPP_UNITID may be a descriptive key, whereas what will be sent to Settlements as the SETTLEMENTS_UNITID will be the TNI code.

8.5 Table: FPP_EST_COST

Name FPP_EST_COST

Comment This report delivers the estimated cost for each FPP unit for each constraint for each 5 minute trading interval

8.5.1 Notes

Name	Comment	Value
Visibility		Private

8.5.2 Primary Key Columns

Name

CONSTRAINTID

FPP_UNITID

INTERVAL_DATETIME

VERSIONNO

8.5.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
FPP_UNITID	VARCHAR2(20	X	FPP Unit ID (registered DUID / TNI)

	)		
VERSIONNO	NUMBER(10)	X	The version number. In most cases this version will be the FPP run number from the FPP database, however there are some cases (like a new pricing run of the constraint FCAS processor received by the FPP system) where the version number listed here will be the financial estimate run number from the FPP database (this number is a different sequence from the FPP run number because there is no recalculation of performance or contribution, just changes to pricing / p regulation hence only the financial estimation is performed).
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from FCAS data)
FPP	NUMBER(18,8)		FPP in AUD (the financial estimate of frequency performance payment calculated for the constraint / bid type / unit). This value can be either positive (credit) or negative (debit). For details on the calculation, please see FPP procedure and supporting documentation.
USED_FCAS	NUMBER(18,8)		Used recovery FCAS in AUD (the financial estimate of the recovery

			of used FCAS calculated for the constraint / bid type / unit). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.
UNUSED_FCAS	NUMBER(18,8)		Unused recovery FCAS in AUD (the financial estimate of the recovery of unused FCAS calculated for the constraint / bid type / unit). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.
PARTICIPANTID	VARCHAR2(20)		Participant ID

8.6 Table: FPP_EST_PERF_COST_RATE

Name FPP_EST_PERF_COST_RATE

Comment This report delivers the estimated performance cost rate for each constraint for each 5 minute trading interval

8.6.1 Notes

Name	Comment	Value
Visibility		Public

8.6.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

VERSIONNO

8.6.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(10)	X	The version number. In most cases this version will be the FPP run number from the FPP database,

			however there are some cases (like a new pricing run of the constraint FCAS processor received by the FPP system) where the version number listed here will be the financial estimate run number from the FPP database (this number is a different sequence from the FPP run number because there is no recalculation of performance or contribution, just changes to pricing / p regulation hence only the financial estimation is performed).
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from FCAS data)
FPP_PAYMENT_RATE	NUMBER(18,8)		The payment rate for FPP in AUD / MWHz (the denominator used is the sum of positive performance for the constraint calculated by contribution factor calculation). This value will be either 0 (nil), or a positive value (credit) only. For details on the calculation, please see FPP procedure and supporting documentation.
FPP_RECOVERY_RATE	NUMBER(18,8)		The recovery rate for FPP in AUD / MWHz (the denominator used is the absolute sum of negative performance for the constraint calculated by the contribution factor calculation). This value will

			be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.
USED_FCAS_RATE	NUMBER(18,8)		The rate for used FCAS in AUD / MWHz (the denominator used is the absolute sum of negative performance for the constraint calculated by the negative contribution factor calculation). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.
UNUSED_FCAS_RATE	NUMBER(18,8)		The rate for unused FCAS in AUD / MWHz (the denominator used is the absolute sum of negative performance for the constraint calculated by the default contribution factor calculation). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.

8.7 Table: FPP_EST_RESIDUAL_COST_RATE

Name FPP_EST_RESIDUAL_COST_RATE

Comment This report delivers the estimated residual cost rate for each constraint for each 5 minute trading interval

8.7.1 Notes

Name	Comment	Value
Visibility		Public

8.7.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

VERSIONNO

8.7.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(10)	X	The version number. In most cases this version will be the FPP run number from the FPP database,

			however there are some cases (like a new pricing run of the constraint FCAS processor received by the FPP system) where the version number listed here will be the financial estimate run number from the FPP database (this number is a different sequence from the FPP run number because there is no recalculation of performance or contribution, just changes to pricing / p regulation hence only the financial estimation is performed).
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from FCAS data)
FPP	NUMBER(18,8)		FPP in AUD/MWh (the financial estimate of frequency performance payment calculated). This value can be either positive (credit) or negative (debit). For details on the calculation, please see FPP procedure and supporting documentation.
USED_FCAS	NUMBER(18,8)		Used recovery FCAS in AUD/MWh (the financial estimate of the recovery of used FCAS calculated). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.

UNUSED_FCAS	NUMBER(18,8)		Unused recovery FCAS in AUD/MWh (the financial estimate of the recovery of unused FCAS calculated). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.

8.8 Table: FPP_FCAS_SUMMARY

Name FPP_FCAS_SUMMARY

Comment This report delivers a summary of FCAS requirements as used by the FPP calculation (i.e. only RAISEREG / LOWERREG bid types)

8.8.1 Notes

Name	Comment	Value
Visibility		Public

8.8.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

RUN_DATETIME

RUNNO

VERSIONNO

8.8.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	The run date and time of the dispatch case that was the trigger for the constraint FCAS processor execution
RUNNO	NUMBER(5)	X	The dispatch case run number that was the trigger for the constraint FCAS processor execution

INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(10)	X	The version number. In most cases this version will be the FPP run number from the FPP database, however there are some cases (like a new pricing run of the constraint FCAS processor received by the FPP system) where the version number listed here will be the financial estimate run number from the FPP database (this number is a different sequence from the FPP run number because there is no recalculation of performance or contribution, just changes to pricing / p regulation hence only the financial estimation is performed).
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations, i.e. RAISEREG or LOWERREG)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from FCAS data)
REGULATION_MW	NUMBER(18,8)		Enabled regulation MW used in the FPP calculation (from FPP database)

CONSTRAINT_MARGINAL_VALUE	NUMBER(18,8)		Marginal value in AUD/MW per hour related to the constraint (from FCAS data used for FPP calculations)
P_REGULATION	NUMBER(18,8)		P regulation value in AUD/MW per hour related to the constraint (from FCAS data used for FPP calculations also known as adjusted marginal value)
BASE_COST	NUMBER(18,8)		Base cost in AUD related to the constraint (from FCAS data used for FPP calculations)
TSFCAS	NUMBER(18,8)		TSFCAS in AUD related to the constraint (FCAS recovery amount related to the constraint also known as adjusted cost)
TOTAL_FPP	NUMBER(18,8)		Total amount of FPP in AUD changing hands related to the constraint (note that this is not the sum of FPP)
RCR	NUMBER(18,5)		RCR MW (the calculated requirement for corrective response from FPP database). Note that this is a join back to the FPP_RCR table.
USAGE	NUMBER(18,8)		Usage (calculation of the proportion of regulation FCAS that was calculated to be used). Note that this is a join back to the FPP_USAGE table.

8.9 Table: FPP_FORECAST_DEFAULT_CF

Name FPP_FORECAST_DEFAULT_CF

Comment This report delivers the forecast default contribution factors (DCF) effective for a billing period (aligned to the settlement week)

8.9.1 Notes

Name	Comment	Value
Visibility		Public

8.9.2 Primary Key Columns

Name

CONSTRAINTID

EFFECTIVE_END_DATETIME

EFFECTIVE_START_DATETIME

FPP_UNITID

VERSIONNO

8.9.3 Content

Name	Data Type	Mandatory	Comment
FPP_UNITID	VARCHAR2(20)	X	FPP Unit ID (registered DUID/ TNI)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
EFFECTIVE_START_DATETI	DATE	X	Effective period start date and time (DD/MM/YYYY HH24:MI:SS) fixed

ME			to the UTC+10 time zone (NEM time) of the effective period for this default contribution factor related to the combination of FPP unit ID / constraint. This is the billing period over which these default contribution factors will be effective / applied. In most cases this will align to the settlement week, however there are some cases (like a new constraint) where the effective start date will be prorated to align with the change.
EFFECTIVE_END_DATETIME	DATE	X	Effective period end date and time (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) of the effective period for this default contribution factor related to the combination of FPP unit ID / constraint. This is the billing period over which these default contribution factors will be effective / applied. Effective end date will align with the end of a settlement week.
VERSIONNO	NUMBER(10)	X	The version number. In most cases this version will be the historical performance calculation run number from the FPP database (which is different from the FPP run number), however there are some cases (like a new constraint) where the version number listed here will be the FPP run number from the FPP database (this will be where the effective start date time will be prorated to align with the detection of this change).

BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
REGIONID	VARCHAR2(20)		Region ID of the frequency deviation / frequency measure
DEFAULT_CONTRIBUTION_FACTOR	NUMBER(18,8)		Calculated default contribution factor from the historical performance period. For further details please see the FPP procedure document.
DCF_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the default contribution factor (DCF)
DCF_ABS_NEGATIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute negative performance in MWHz for the combination of constraint (raise or lower). This is used as the denominator in normalising default contribution factors (DCF) as the historical performance is always negative for DCF. For further details please see the FPP procedure document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable
SETTLEMENTS_UNITID	VARCHAR2(20)		The Settlements Unit ID (registered DUID / TNI) Note that this SETTLEMENTS_UNITID is what is sent and used by the Settlements system, and may be different from the FPP_UNITID for non- scheduled loads where the FPP_UNITID may be a descriptive key, whereas what will be sent to Settlements as the SETTLEMENTS_UNITID will be the

			TNI code.

8.10 Table: FPP_FORECAST_RESIDUAL_DCF

Name FPP_FORECAST_RESIDUAL_DCF

Comment This report delivers the forecast residual default contribution factors (DCF) effective for a billing period (aligned to the settlement week)

8.10.1 Notes

Name	Comment	Value
Visibility		Public

8.10.2 Primary Key Columns

Name

CONSTRAINTID

EFFECTIVE_END_DATETIME

EFFECTIVE_START_DATETIME

VERSIONNO

8.10.3 Content

Name	Data Type	Mandatory	Comment
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
EFFECTIVE_START_DATETIME	DATE	X	Effective period start date and time (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) of the effective period for this residual default contribution factor related to the constraint.

			This is the billing period over which these default contribution factors will be effective / applied. In most cases this will align to the settlement week, however there are some cases (like a new constraint) where the effective start date will be prorated to align with the change.
EFFECTIVE_END_DATETIME	DATE	X	Effective period end date and time (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) of the effective period for this residual default contribution factor related to the constraint. This is the billing period over which these default contribution factors will be effective / applied. Effective end date will align with the end of a settlement week.
VERSIONNO	NUMBER(10)	X	The version number. In most cases this version will be the historical performance calculation run number from the FPP database (which is different from the FPP run number), however there are some cases (like a new constraint) where the version number listed here will be the FPP run number from the FPP database (this will be where the effective start date time will be prorated to align with the detection of this change).
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RESIDUAL_DCF	NUMBER(18,8)		Calculated residual default

			contribution factor from the historical performance period. For further details please see the FPP procedure document.
RESIDUAL_DCF_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the residual default contribution factor (DCF)
DCF_ABS_NEGATIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute negative performance in MWHz for the combination of constraint (raise or lower). This is used as the denominator in normalising default contribution factors (DCF). For further details please see the FPP procedure document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable

8.11 Table: FPP_HIST_PERFORMANCE

Name FPP_HIST_PERFORMANCE

Comment This report delivers the historical performance calculated based on a historical period and effective for a billing period (aligned to the settlement week)

8.11.1 Notes

Name	Comment	Value
Visibility		Public

8.11.2 Primary Key Columns

Name

EFFECTIVE_END_DATETIME

EFFECTIVE_START_DATETIME

FPP_UNITID

VERSIONNO

8.11.3 Content

Name	Data Type	Mandatory	Comment
FPP_UNITID	VARCHAR2(20)	X	FPP Unit ID (registered DUID/ TNI)
EFFECTIVE_START_DATETIME	DATE	X	Effective period start date and time (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) of the effective period for this historical performance values related to the FPP unit ID. This is the billing period over which these

			historical performance values will be effective / applied over. This will align to the settlement week.
EFFECTIVE_END_DATETIME	DATE	X	Effective period end date and time (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) of the effective period for this historical performance values related to the FPP unit ID. This is the billing period over which these historical performance values will be effective / applied over. This will align to the settlement week.
VERSIONNO	NUMBER(10)	X	Version (FPP historical performance calculation run number from the FPP database) Note that due to the these historical calculations, the version numbers listed here are different to the normal FPP run number version for trading interval calculations.
HIST_PERIOD_START_DATETIME	DATE		Historical period start date and time (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) of the historical period for this historical performance calculation related to the FPP unit ID. This is the historical period of trading intervals that feed into the historical performance calculation. This will align to the settlement week.
HIST_PERIOD_END_DATETIME	DATE		Historical period end date and time (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) of the historical period

			for this historical performance calculation related to the FPP unit ID. This is the historical period of trading intervals that feed into the historical performance calculation. This will align to the settlement week.
REG_HIST_RAISE_PERFORMANCE	NUMBER(18,5)		Calculated regulation historical raise performance from the historical performance period (substitute raise performance when live performance is unavailable and default raise performance used for default contribution factor calculation) - please see the NER and FPP procedure documents for further information
REG_HIST_LOWER_PERFORMANCE	NUMBER(18,5)		Calculated regulation historical lower performance from the historical performance period (substitute lower performance when live performance is unavailable and default lower performance used for default contribution factor calculation) - please see the NER and FPP procedure documents for further information
FPP_HIST_RAISE_PERFORMANCE	NUMBER(18,5)		Calculated FPP historical raise performance from the historical performance period (substitute raise performance calculated used for negative contribution factor calculation when live performance is unavailable) - please see the NER and FPP procedure documents for further information

FPP_HIST_LOWER_PERFORMANCE	NUMBER(18,5)		Calculated FPP historical lower performance from the historical performance period (substitute lower performance calculated used for negative contribution factor calculation when live performance is unavailable) - please see the NER and FPP procedure documents for further information

8.12 Table: FPP_P5_FWD_EST_COST

Name FPP_P5_FWD_EST_COST

Comment This report delivers the forward estimated unit cost based on P5min runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 5 minute pre-dispatch interval.

8.12.1 Notes

Name	Comment	Value
Visibility		Private

8.12.2 Primary Key Columns

Name

CONSTRAINTID

FPP_UNITID

INTERVAL_DATETIME

RUN_DATETIME

RUNNO

VERSIONNO

8.12.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	The run date and time of the 5 minute predispatch case that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis of

			these forward estimates)
RUNNO	NUMBER(5)	X	The 5 minute predispatch case run number that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis for these forward estimates)
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
FPP_UNITID	VARCHAR2(20)	X	FPP Unit ID (registered DUID / TNI)
VERSIONNO	NUMBER(5)	X	The version number of the effective default contribution factor for the unit / constraint combination taken from the FPP_FORECAST_DEFAULT_CF table
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from FCAS data)
EST_UNUSED_FCAS	NUMBER(18,8)		Estimated unused recovery FCAS in AUD (the forward financial estimate of the recovery of unused FCAS, assuming that all is unused FCAS). This value will be either 0 (nil), or a negative value (debit)

			only. For details on the calculation, please see FPP procedure and supporting documentation.
PARTICIPANTID	VARCHAR2(20)		Participant ID

8.13 Table: FPP_P5_FWD_EST_RESIDUALRATE

Name FPP_P5_FWD_EST_RESIDUALRATE

Comment This report delivers the forward estimated residual cost rate based on P5min runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 5 minute pre-dispatch interval.

8.13.1 Notes

Name	Comment	Value
Visibility		Public

8.13.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

RUN_DATETIME

RUNNO

VERSIONNO

8.13.3 Content

Name	Data Type	Mandatory	Comment
RUN_DATETIME	DATE	X	The run date and time of the 5 minute predispatch case that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis of these forward estimates)

RUNNO	NUMBER(5)	X	The 5 minute predispatch case run number that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis for these forward estimates)
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(5)	X	The version number of the effective default contribution factor for the unit / constraint combination taken from the FPP_FORECAST_DEFAULT_CF table
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from FCAS data)
EST_UNUSED_FCAS	NUMBER(18,8)		Estimated unused recovery FCAS in AUD/MWh (the forward financial estimate of the recovery of unused FCAS, assuming that all is unused FCAS). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.

8.14 Table: FPP_PD_FWD_EST_COST

Name FPP_PD_FWD_EST_COST

Comment This report delivers the forward estimated unit cost based on PREDISPATCH runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 30 minute pre-dispatch interval.

8.14.1 Notes

Name	Comment	Value
Visibility		Private

8.14.2 Primary Key Columns

Name

CONSTRAINTID

FPP_UNITID

INTERVAL_DATETIME

PREDISPATCHSEQNO

RUN_DATETIME

RUNNO

VERSIONNO

8.14.3 Content

Name	Data Type	Mandatory	Comment
PREDISPATCHSEQNO	VARCHAR2(20)	X	Predispatch sequence number for the 30 minute predispatch case that triggers the constraint FCAS

			processor run
RUN_DATETIME	DATE	X	The run date and time of the 30 minute predispatch case that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis of these forward estimates)
RUNNO	NUMBER(5)	X	The 30 minute predispatch case run number that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis for these forward estimates)
INTERVAL_DATETIME	DATE	X	Date and time of the 30 minute predispatch interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
FPP_UNITID	VARCHAR2(20)	X	FPP Unit ID (registered DUID / TNI)
VERSIONNO	NUMBER(5)	X	The version number of the effective default contribution factor for the unit / constraint combination taken from the FPP_FORECAST_DEFAULT_CF table
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from

			FCAS data)
EST_UNUSED_FCAS	NUMBER(18,8)		Estimated unused recovery FCAS in AUD (the forward financial estimate of the recovery of unused FCAS, assuming that all is unused FCAS). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.
PARTICIPANTID	VARCHAR2(20)		Participant ID

8.15 Table: FPP_PD_FWD_EST_RESIDUALRATE

Name FPP_PD_FWD_EST_RESIDUALRATE

Comment This report delivers the forward estimated residual cost rate based on PREDISPATCH runs. These high-level estimates (i.e. assuming that all is unused FCAS) will be provided for each constraint for each 30 minute pre- dispatch interval.

8.15.1 Notes

Name	Comment	Value
Visibility		Public

8.15.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

PREDISPATCHSEQNO

RUN_DATETIME

RUNNO

VERSIONNO

8.15.3 Content

Name	Data Type	Mandatory	Comment
PREDISPATCHSEQNO	VARCHAR2(20)	X	Predispatch sequence number for the 30 minute predispatch case that triggers the constraint FCAS processor run

RUN_DATETIME	DATE	X	The run date and time of the 30 minute predispatch case that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis of these forward estimates)
RUNNO	NUMBER(5)	X	The 30 minute predispatch case run number that was the trigger for the constraint FCAS processor execution (as the FCAS requirement data is the basis for these forward estimates)
INTERVAL_DATETIME	DATE	X	Date and time of the 30 minute predispatch interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(5)	X	The version number of the effective default contribution factor for the unit / constraint combination taken from the FPP_FORECAST_DEFAULT_CF table
BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RELEVANT_REGIONS	VARCHAR2(200)		Relevant regions (a comma separated list of the relevant regions for the constraint from FCAS data)
EST_UNUSED_FCAS	NUMBER(18,8)		Estimated unused recovery FCAS in AUD/MWh (the forward financial estimate of the recovery of unused

			FCAS, assuming that all is unused FCAS). This value will be either 0 (nil), or a negative value (debit) only. For details on the calculation, please see FPP procedure and supporting documentation.

8.16 Table: FPP_PERFORMANCE

Name	FPP_PERFORMANCE
Comment	This report delivers the calculated performance value for each 5 minute trading interval for each FPP unit

8.16.1 Notes

Name	Comment	Value
Visibility		Private & Public Next-Day

8.16.2 Primary Key Columns

Name

FPP_UNITID

INTERVAL_DATETIME

VERSIONNO

8.16.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
FPP_UNITID	VARCHAR2(20)	X	FPP Unit ID (registered DUID/ TNI)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)

RAISE_PERFORMANCE	NUMBER(18,5)		Raise performance value in MWHz units (calculated by FPP for that trading interval taken from FPP database)
RAISE_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the raise performance value Supported values are: 0 = Performance is calculated based on good input data 1 = Performance is Null as unit is a Non Primary DUID in the group 2 = Performance against the Primary DUID representing the group 4 = Performance is Null as Input data is bad or unavailable 8 = Performance is Null as FM is unreliable 12 = Performance is Null as Input data is bad or unavailable and FM is unreliable 6 = Performance against the Primary DUID representing the group is Null as Input data is bad or unavailable 10 = Performance against the Primary DUID representing the group is Null as FM is unreliable 14 = Performance against the Primary DUID representing the group is Null as Input data is bad or unavailable and FM is unreliable
LOWER_PERFORMANCE	NUMBER(18,5)		Lower performance value in MWHz units (calculated by FPP for that trading interval taken from FPP database)
LOWER_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the lower performance value Supported

			values are: 0 = Performance is calculated based on good input data 1 = Performance is Null as unit is a Non Primary DUID in the group 2 = Performance against the Primary DUID representing the group 4 = Performance is Null as Input data is bad or unavailable 8 = Performance is Null as FM is unreliable 12 = Performance is Null as Input data is bad or unavailable and FM is unreliable 6 = Performance against the Primary DUID representing the group is Null as Input data is bad or unavailable 10 = Performance against the Primary DUID representing the group is Null as FM is unreliable 14 = Performance against the Primary DUID representing the group is Null as Input data is bad or unavailable and FM is unreliable
PARTICIPANTID	VARCHAR2(20)		Participant ID

8.17 Table: FPP_RCR

Name FPP_RCR

Comment This report delivers the calculated RCR for each constraint for each 5 minute trading interval

8.17.1 Notes

Name	Comment	Value
Visibility		Public

8.17.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

VERSIONNO

8.17.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)

BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RCR	NUMBER(18,5)		RCR (the calculated requirement for corrective response from FPP database)
RCR_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the requirement for corrective response (RCR) calculation Supported values are: 0 = RCR is calculated based on good input data 1 = RCR is 0 as FM is unreliable 2 = RCR is 0 as the percentage of units with unavailable input or bad data is greater than the threshold percentage

8.18 Table: FPP_REGION_FREQ_MEASURE

Name FPP_REGION_FREQ_MEASURE

Comment This report delivers the curated 4 second frequency deviation and frequency measure data for each region

8.18.1 Notes

Name	Comment	Value
Visibility		Public

8.18.2 Primary Key Columns

Name

INTERVAL_DATETIME

MEASUREMENT_DATETIME

REGIONID

VERSIONNO

8.18.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
MEASUREMENT_DATETIME	DATE	X	Date and time of the SCADA data (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)

REGIONID	VARCHAR2(20)	X	Region ID of the frequency deviation / frequency measure
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)
FREQ_DEVIATION_HZ	NUMBER(18,8)		Frequency Deviation (4 second frequency deviation in Hz for that region)
HZ_QUALITY_FLAG	NUMBER(5)		Frequency Quality (4 second frequency deviation quality for that region) Supported values are: 0 = Bad Quality 1 = Good Quality 2 = Suspect Quality
FREQ_MEASURE_HZ	NUMBER(18,8)		Calculated 4 second Frequency Measure for that region from FPP database
FM_ALIGNMENT_FLAG	NUMBER(5)		Alignment Flag (4 second frequency deviation is aligned with 4 second frequency measure for that region) Supported values are: 0 = Misaligned 1 = Aligned

8.19 Table: FPP_RESIDUAL_CF

Name FPP_RESIDUAL_CF

Comment This report delivers the calculated residual contribution factor value for each 5 minute trading interval for each constraint

8.19.1 Notes

Name	Comment	Value
Visibility		Public

8.19.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

VERSIONNO

8.19.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)

BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
RESIDUAL_CF	NUMBER(18,8)		Residual Contribution Factor (the calculated residual contribution factor for the constraint ID for that trading interval) - for further details please see the FPP procedure document
NEGATIVE_RESIDUAL_CF	NUMBER(18,8)		Negative Residual Contribution Factor (the calculated negative residual contribution factor for the constraint ID for that trading interval) - for further details please see the FPP procedure document
RESIDUAL_DCF	NUMBER(18,8)		The Residual Default Contribution Factor (the calculated residual default contribution factor based on historical performance for the constraint ID for that trading interval) that is effective for this trading interval, which joins back to FPP_FORECAST_RESIDUAL_DCF - for further details please see the FPP procedure document
RESIDUAL_CF_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the residual contribution factor (CF) Supported values are: 0 = CF is calculated based on good input data 8 = CF is 0 because FM is unreliable. 16 = CF is 0 because more than 50 percent input is bad or not available.
CF_ABS_POSITIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute positive performance in MWHz for the combination of constraint / bid

			type (raise or lower). This is used as the denominator in normalising contribution factors (CF) where a units performance is positive. For further details please see the FPP procedure document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable
CF_ABS_NEGATIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute negative performance in MWHz for the combination of constraint / bid type (raise or lower). This is used as the denominator in normalising contribution factors (CF) where a units performance is negative. For further details please see the FPP procedure document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable
NCF_ABS_NEGATIVE_PERF_TOTAL	NUMBER(18,8)		The sum of absolute negative performance in MWHz for the combination of constraint / bid type (raise or lower). This is used as the denominator in normalising negative contribution factors (NCF). For further details please see the FPP procedure document. >0 = Performance was calculated for the units NULL = Performance for the units was unavailable 0 = When NCF is zero (i.e. CF is positive), then this total will be represented as zero

8.20 Table: FPP_RESIDUAL_PERFORMANCE

Name FPP_RESIDUAL_PERFORMANCE

Comment This report delivers the calculated residual performance value for each 5 minute trading interval

8.20.1 Notes

Name	Comment	Value
Visibility		Public

8.20.2 Primary Key Columns

Name

INTERVAL_DATETIME

REGIONID

VERSIONNO

8.20.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
REGIONID	VARCHAR2(20)	X	Region ID of the residual performance
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)
RAISE_PERFORMANCE	NUMBER(18,5)		Raise performance value in MWHz

			units (calculated by FPP for that trading interval taken from FPP database)
RAISE_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the raise performance value Supported values are: 0 = Performance is calculated based on good input data 4 = Performance is Null as Input data is bad or unavailable 8 = Performance is Null as FM is unreliable 12 = Performance is Null as Input data is bad or unavailable and FM is unreliable
LOWER_PERFORMANCE	NUMBER(18,5)		Lower performance value in MWHz units (calculated by FPP for that trading interval taken from FPP database)
LOWER_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the lower performance value Supported values are: 0 = Performance is calculated based on good input data 4 = Performance is Null as Input data is bad or unavailable 8 = Performance is Null as FM is unreliable 12 = Performance is Null as Input data is bad or unavailable and FM is unreliable

8.21 Table: FPP_RUN

Name FPP_RUN

Comment This report delivers details of the 5-minute FPP calculation engine success failure outcome saved in FPP database

8.21.1 Notes

Name	Comment	Value
Visibility		Public

8.21.2 Primary Key Columns

Name

INTERVAL_DATETIME

VERSIONNO

8.21.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)
FPPRUN_DATETIME	DATE		Completion time of the FPP calculation run (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
RUN_STATUS	VARCHAR2(20		Date and time of the trading

	)		interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
AUTHORISED_DATETIME	DATE		Date and time of the authorisation of this FPP calculation run (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time) - Note may be delayed in cases of ex-post calculation runs

8.22 Table: FPP_UNIT_MW

Name	FPP_UNIT_MW
Comment	This report delivers the curated 4 second measurement MW data for each FPP unit

8.22.1 Notes

Name	Comment	Value
Visibility		Private & Public Next-Day

8.22.2 Primary Key Columns

Name

FPP_UNITID

INTERVAL_DATETIME

MEASUREMENT_DATETIME

VERSIONNO

8.22.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
MEASUREMENT_DATETIME	DATE	X	Date and time of the SCADA data (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)

FPP_UNITID	VARCHAR2(20)	X	FPP Unit ID (registered DUID/TNI)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)
MEASURED_MW	NUMBER(18,8)		Measured MW (4 second SCADA measurement in MW)
MW_QUALITY_FLAG	NUMBER(5)		MW Quality (4 second SCADA measurement Quality) Supported values are: 0 = Bad Quality 1 = Good Quality 2 = Suspect Quality
SCHEDULED_MW	NUMBER(18,5)		Scheduled MW (reference trajectory value from FPP calculation process)
DEVIATION_MW	NUMBER(18,5)		Unit Deviation (output of the FPP calculation process)
PARTICIPANTID	VARCHAR2(20)		Participant ID

8.23 Table: FPP_USAGE

Name FPP_USAGE

Comment This report delivers the calculated usage for each constraint for each 5 minute trading interval

8.23.1 Notes

Name	Comment	Value
Visibility		Public

8.23.2 Primary Key Columns

Name

CONSTRAINTID

INTERVAL_DATETIME

VERSIONNO

8.23.3 Content

Name	Data Type	Mandatory	Comment
INTERVAL_DATETIME	DATE	X	Date and time of the trading interval (DD/MM/YYYY HH24:MI:SS) fixed to the UTC+10 time zone (NEM time)
CONSTRAINTID	VARCHAR2(20)	X	Constraint ID (binding constraint ID from FCAS data used in FPP calculations)
VERSIONNO	NUMBER(5)	X	Version (FPP run number from the FPP database)

BIDTYPE	VARCHAR2(10)		Bid type (the bid type saved in relation to constraint ID from FCAS data used in FPP calculations)
REGULATION_MW	NUMBER(18,8)		Enabled regulation MW used in the FPP calculation (from FPP database)
USED_MW	NUMBER(18,8)		Maximum used regulation MW value (quantity of regulation FCAS that was calculated to be used in MW)
USAGE	NUMBER(18,8)		Usage (calculation of the proportion of regulation FCAS that was calculated to be used)
USAGE_REASON_FLAG	NUMBER(5)		The reason flag showing the decision matrix for the requirement for corrective response (RCR) calculation Supported values are: 0 = Usage is calculated based on good input data 1 = Usage is 0 as FM is unreliable 2 = Usage is 0 as the percentage of units with unavailable input or bad data is greater than the threshold percentage