INDEPENDENT
MARKET
OPERATOR

MARKET PROCEDURE: IMS INTERFACE

VERSION 32

ELECTRICITY INDUSTRY ACT 2004

ELECTRICITY INDUSTRY

(WHOLESALE ELECTRICITY MARKET)

REGULATIONS 2004

WHOLESALE ELECTRICITY MARKET RULES

COMMENCEMENT:

This Market Procedure took effect from Balancing Market Commencement Day.

VERSION HISTORY

VERSION	EFFECTIVE DATE	NOTES
1	Balancing Market Commencement Day	Market Procedure for IMS Interface resulting from PC_2012_04
2	22 April 2013	Amendments to Market Procedure resulting from PC_2012_10.
3	2 October 2013	Amendments to Market Procedure resulting from PC_2013_08.

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1 PROCEDURE OVERVIEW

1.1 Relationship with the Market Rules

1.1.1 This IMS Interface Market Procedure (Procedure) should be read in conjunction with section 2.36 of the Wholesale Electricity Market (WEM) Rules (Market Rules).

1.1.2 Reference to particular Market Rules within the Procedure in bold and square brackets **[Clause XX]** are current as of Balancing Market Commencement Day. These references are included for convenience only, and are not part of this Procedure.

1.2 Purpose of this Procedure

1.2.1 This Procedure prescribes the reasonable arrangements by which System Management and the IMO must, subject to clause 2.36.10 of the Market Rules, provide each other with information under the Market Rules including:

(a) the format, form and manner in which the information must be provided; and

(b) where the Market Rules do not provide a timeframe for the provision of information, the time by which such information is to be provided. [Clause 2.36.9]

1.3 Application of this Procedure

1.3.1 This Procedure applies to:

(a) the IMO in relation to the information it must provide to System Management to enable System Management to fulfil its obligations under the Market Rules; and

(b) System Management in relation to the information it must provide to the IMO to enable the IMO to fulfil its obligations under the Market Rules.

1.4 Associated Market Procedures

1.4.1 The following IMO Market Procedures are associated with this Procedure:

(a) Notices and Communications.

1.4.2 The following System Management Power System Operation Procedures (PSOPs) are associated with this Procedure:

(a) Communications and Control Systems and, as referenced in that Procedure, the PSOP: Operational Data Points for Generating Plant; and

(b) Dispatch.

1.5 Terminologies and Definitions

1.5.1 A word or phrase defined in the Market Rules, the Electricity Industry Act or the

Regulations has the same meaning when used in this Procedure. In addition, the following defined terms have the meanings given.

Term	Definition
Transfer Failure	• A direct transfer error as reported by an FTP service; • the time out of an acknowledgement file; or • a missing file, i.e. where a required file is not received in time (according to the event schedule).

2 TRANSFER OF INFORMATION

2.1 Provision of information between the IMO and System Management

2.1.1 The IMO and System Management must transfer information in accordance with the requirements outlined in:

(a) the Data Definition Interface, prescribed in section 3 of this Procedure; and

(b) the Data Transfer Mechanism, prescribed in section 4 of this Procedure,

unless otherwise agreed between the IMO and System Management in accordance with the process outlined in clause 2.36.10 of the Market Rules.

3 DATA DEFINITION INTERFACE

3.1 Background information

3.1.1 The common data types referred to in section 3 of this Procedure are outlined in the following table:

Name	Description	Type
BUS_ASSOC_ID	Business Associate ID. Unique identifier for the Participant.	NUMBER(15,0)
PARTICIPANT_NAME	Participant Short Name. “IMO” if the value is for the whole market	VARCHAR2(12)
RES_ID	Unique identifier for the resource. For the Portfolio, this is NULL.	NUMBER(15,0)
RESOURCE_NAME	Resource Name or “PORTFOLIO” for Verve Portfolio.	VARCHAR2(32)
TRADE_DATE	Trading Date	DATE (DD/MM/YYYY)
DELIVERY_DATE	Delivery date (Calendar)	DATE (DD/MM/YYYY)
DELIVERY_HOUR	Hour within the Delivery Date (0 – 23) e.g. 1 is 1am	NUMBER(2,0)
DELIVERY_INTERVAL	Interval within the Delivery Hour (1 or 2) 2 is interval starting on the half hour	NUMBER(2,0)
CREATION_DATE	Record Creation Date	DATE (DD/MM/YYYY HH24:MI:SS)
LAST_UPDATE_DATE	Last System Updated Date	DATE (DD/MM/YYYY HH24:MI:SS)

3.1.2 Where a date range has been specified in any of the files detailed in sections 3.2 to 3.6 below (e.g. START_DATE/END_DATE and EFF_DATE/EXP_DATE), they refer to a Trading Day range unless otherwise specified. The date range is inclusive of both the start interval (8:00am) and end interval (7:30am) for the dates specified.

3.1.3 The acronyms used in section 3 of this Procedure to define constraints on the data in the interfaces are outlined in the following table:

Constraint ID	Constraint Name
PK	Primary Key
UK	Unique Key
NN	Not Null

3.2 Data to System Management – Trading Data

3.2.1 RES_PLAN_PART_INTERVAL

Transfer Timing: Daily transfer by 1:30 PM, or by 3:30 PM where the time for submitting Resource Plans is extended by the IMO under clause 6.5.1(b).

Description: The following data set is used to define Trading Interval level data for the Resource Plans of each Market Participant. As Verve Energy does not provide demand, it must always have a 0 MWh value for TOTAL_DEMAND_MWH.

Rule Reference: Clause 7.4.1.

RES_PLAN_PART_INTERVAL (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
TOTAL_DEMAND_MWH	Total Demand MWh	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
SHORTFALL_MWH	Short Fall MWh	NUMBER(9,3)	NN	Y
NON_SCHED_GENERATION	Sum of expected loss factor adjusted output of Non-Scheduled Generators in MWh.	NUMBER(9,3)	NN	Y
TOTAL_DEMAND_EOI_MW	End of Interval MW value of total demand	NUMBER(9,3)	NN	Y

3.2.2 RES_PLAN_INTERVAL

Transfer Timing: Daily transfer by 1:30 PM, or by 3:30 PM where the time for submitting Resource Plans is extended by the IMO under clause 6.5.1(b).

Description: The following data set is used to define Trading Interval level Resource Plan data for each Resource. Resource Plans in the Balancing Market will be based on a MW end of interval target, and a ramp rate. Resource Plans are defined for a complete Trading Day.

Rule Reference: Clause 7.4.1.

RES_PLAN_INTERVAL (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
RESOURCE_TYPE	Resource Type. SG - Scheduled Generator DL - Dispatchable Load	VARCHAR2(4)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
QUANTITY_MWH	Quantity Per MW Hour	NUMBER(9,3)	NN	Y
TARGET_MW	End of Interval Target MW (sent out values)	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
FUEL_IN_USE	Fuel in Use Flag L – Liquid N - Non-liquid	CHAR(1)	NN	Y
RAMP_RATE	Ramp Rate (MW/min) Ramp rate specified for Trading Interval.	NUMBER(15,3)	NN	Y

3.2.3 RESOURCE_SYNC

Transfer Timing: Daily transfer by 1:30 PM, or by 3:30 PM where the time for submitting Resource Plans is extended by the IMO under clause 6.5.1(b).

Description: The following data set is used to define the Resource level Sync/De-Sync Times for Resource Plans.

Rule Reference: Clause 7.4.1.

RESOURCE_SYNC (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
TIME_STAMP	Synchronization/de-synchronization timestamp up to the resolution of minutes. (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y
SYNC_TYPE_FLAG	Sync Type Flag. Valid Values are: C – Commit/Synchronize D - De-Commit/De-Synchronize	CHAR(1)		Y

3.2.4 DISPATCH_MERIT_ORDER

Transfer Timing: Daily transfer by 1:30 PM.

Description: The table below lists data elements used for the Non-Balancing Dispatch Merit Order data. The Non-Balancing Dispatch Merit Order contains the merit orders for Demand Side Programmes and Dispatchable Loads, while merit orders for all Balancing Facilities are contained in the Balancing Merit Order.

Rule Reference: Clause 7.5.1.

DISPATCH_MERIT_ORDER (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
MERIT_ORDER_TYPE	Merit Order Type. Values are: SIP – Supply increase for peak intervals SDP – Supply decrease for peak intervals SIOP – Supply increase for off-peak intervals SDOP – Supply decrease for off-peak intervals	VARCHAR2(4)	UK, NN	Y
MERIT_ORDER	1-n for each MERIT_ORDER_TYPE	NUMBER(4,0)	UK, NN	Y
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y

3.2.5 BALANCING_MERIT_ORDER

Transfer Timing: Every 30 minutes, between 15 to 30 minutes before the start of the

Trading Interval to which the BMO relates.

Description: The table below lists data elements used for Balancing Merit Order (BMO) data. The BMO includes the submission quantities and merit order ranking for Balancing Facilities registered to Independent Power Producers (IPPs), Stand Alone Facilities and the Verve Energy Balancing Portfolio.

Once the Trading Day begins, a BMO will exist for all Trading Intervals until the end of the current Trading Day, however from 6:00 PM onwards, the BMO will include all Trading Intervals for the current and following Trading Day.

For example:

- At 7:30 AM on Monday, the BMO will contain 48 Trading Intervals:
  - 8:00 AM – 7:30 AM for Monday's Trading Day
- At 6:00 PM on Monday, the BMO will contain 74 Trading Intervals:
  - 6:30 PM – 7:30 AM for Monday's Trading Day, and;
  - 8:00 AM – 7:30 AM for Tuesday's Trading Day.

Rule Reference: Clause 7A.3.6.

BALANCING_MERIT_ORDER (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CREATION_DATE	Record Creation Date	DATE (DD/MM/YYYY HH24:MI:SS)	UK, NN	Y
MERIT_ORDER	Ordered ranking of generation capacity. Lowest number is first to be dispatched.	NUMBER (3,0)	UK, NN	Y
BUS_ASSOC_ID	see Common Data Types	NUMBER(15,0)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
TARGET_MW	Max MW level of generation tranche. Max Generation for Non-Scheduled Generators that will either be based on submissions or as supplied by System Management.	NUMBER(9,3)	NN	Y
MAX_RAMP	Maximum Ramp Rate available in tranche (up and down). (MW/min) For Non-Scheduled Generators this will be assumed to be infinite. All MAX_RAMP values for a resource will be	NUMBER(15,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
	the same for a given Trading Interval.			
FUEL_TYPE	Fuel Type as declared in participant's Balancing Submission: N – Non-Liquid L - Liquid	CHAR(1)	NN	Y
PRIORITY_FLAG	Priority flag associated with the submission tranche used by BMO "tie breaker rules": (in order of priority descending). L – LFAS (highest priority) A – Other Ancillary C – Commissioning Unit N – Facility that doesn't meet minimum requirements to actively participate in the Balancing Market If NULL, no priority associated with tranche.	CHAR(1)		Y

3.2.6 FORECAST_QUANTITIES

Transfer Timing: Every 30 minutes, between 15 to 30 minutes before the start of the Trading Interval to which the BMO relates.

Description: The table below lists data elements used for Forecast Quantities data.

Forecast Quantities will be generated based on the latest BMO for all Trading Intervals until the end of the current Trading Day. However, from 6:00 PM onwards, the Forecast Quantities will be available for all Trading Intervals for the current and following Trading Day.

For example:

- At 7:30 AM on Monday, the Forecast Quantities will contain 48 Trading Intervals:
  - 8:00 AM – 7:30 AM for Monday's Trading Day
- At 6:00 PM on Monday, the Forecast Quantities will contain 74 Trading Intervals:
  - 6:30 PM – 7:30 AM for Monday's Trading Day, and;
  - 8:00 AM – 7:30 AM for Tuesday's Trading Day.

Rule Reference: Not defined under the Market Rules, but provided by the IMO to System Management for information purposes.

FORECAST_QUANTITIES (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CREATION_DATE	Record Creation Date	DATE (DD/MM/YYYY HH24:MI:SS)	UK, NN	Y
BUS_ASSOC_ID	see Common Data Types	NUMBER(15,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
FORECAST_MW	Forecast EOI MW level of generator.	NUMBER(9,3)	NN	Y

3.2.7 LOAD_FOLLOWING

Transfer Timing: Every 30 minutes, within 15 minutes after the end of a Trading Interval, a LFAS Merit Order must be set and transferred for the six hour LFAS Horizon for which gate closure has just passed.

Description: The table below lists data elements used for Load Following data.

The Load Following file will include the price ordered list of forecasted LFAS providers through until the end of the Balancing Horizon. Fields will identify LFAS submission band quantities and the Trading Intervals they are valid for. Submission bands are quantities above or below the dispatch point calculated within Balancing.

For example (based on a five hour Gate Closure – two hours for Balancing, additional three for LFAS):

- At 3:00 AM on Tuesday, LOAD_FOLLOWING will contain Trading Intervals:
  - 8:00 AM – 1:30 PM for Tuesday's Trading Day (final LFAS values)
  - 2:00 PM – 7:30 AM for Tuesday's Trading Day (forecast LFAS values)
- At 6:00 PM on Tuesday, LOAD_FOLLOWING will contain Trading Intervals:
  - 2:00 AM – 7:30 AM for Tuesday's Trading Day (forecast LFAS values)

- 8:00 AM – 7:30 AM for Wenesday's Trading Day (forecast LFAS values)

Two types of LFAS bands are supplied in the file – LFAS Up and LFAS Down.

Rule Reference: Clauses 7B.3.4(d) and 7B.3.5(a).

LOAD_FOLLOWING (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y
MERIT_ORDER	Ordered ranking of LFAS capacity. Lowest number is first to be dispatched.	NUMBER (3,0)	UK, NN	Y
BUS_ASSOC_ID	see Common Data Types	NUMBER(15,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
LFAS_TYPE	Determines which type of LFAS: LU– LFAS Up LD – LFAS Down	CHAR(2)	UK, NN	Y
LFAS_BAND	Load Following Band (MW) Band size from Balancing dispatch point.	NUMBER(15,3)	NN	Y

3.2.8 BLT_POSITIONS

Transfer Timing: Daily transfer by 10:30 AM.

Description: The table below lists data elements to define the total quantity of energy scheduled to be supplied under Bilateral Contracts and in the STEM Auction by each Market Participant, for each Trading Interval in a Trading Day. The Bilateral Positions provide early notification of fixed positions in the market, in particular Balancing expectations from retailers.

Rule Reference: Clause 6.4.2.

BLT_POSITIONS (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
NET_BLT_QUANTITY_MWH	Net Bilateral Quantity (MWh)	NUMBER(9,3)		Y
QUANTITY_FROM_IMO_MWH	STEM Auction Cleared Quantity	NUMBER(9,3)		Y

3.2.9 BLT_CONTRACTS

Transfer Timing: Daily transfer by 10:30 AM.

Description: The table below lists data elements to define the total quantity of energy scheduled to be supplied under Bilateral Contracts between Market Participants for each Trading Interval. The Bilateral Positions will provide early notification of fixed positions in the market, in particular Balancing expectations from retailers.

Rule Reference: Clause 6.4.2.

BLT_CONTRACTS (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
PARTICIPANT_CONSUMER	Consumer Short Name	VARCHAR2(12)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
SUPPLY_QUANTITY_MWH	Total Quantity Supplied (MWh)	NUMBER(9,3)	NN	Y
DEMAND_QUANTITY_MWH	Transaction Quantity	NUMBER(9,3)	NN	Y

3.2.10 VERVE_PORTFOLIO

Transfer Timing: Daily transfer at approximately 12:30 AM.

Description: The table below lists data elements used to define which Facilities are part of

the Verve Energy Balancing Portfolio.

Verve Energy are allowed to remove generating Facilities from their portfolio to operate as Stand Alone Facilities (SAF). These Facilities can be set as SAF as part of a month long trial, or on a permanent basis.

This Verve Portfolio file defines whether Facilities are included in the portfolio, on an SAF trial, or are permanent SAFs.

Rule Reference: This interface provides Portfolio management information relating to section 7A.4 of the Market Rules.

VERVE_PORTFOLIO (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
PORTFOLIO_STATUS	Y – Facility in Portfolio T – Facility in trial as SAF N – Facility is a permanent SAF	VARCHAR2(1)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
START_DATE	Start date/time of resource to operate as SAF/Portfolio (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
END_DATE	End date/time of resource to operate as SAF/Portfolio. (DD/MM/YYYY HH24:MI:SS)	DATE		Y

3.3 Data to System Management – Master File Data

3.3.1 MF_BA_CLASSES

Transfer Timing: Daily transfer at approximately 12:30 AM.

Description: The Master File Business Associates Classes table contains information about various types of Market Participants.

Rule Reference: Clause 2.31.5(a).

MF_BA_CLASSES (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
CLASS_ID	Class ID Valid values are : MO - Market Operator SO - System Operator NO - Network Operator MG - Market Generator MC - Market Customer NP - Non-Trading Participant ER - Regulatory Body MA - Meter Agent ASP - Ancillary Services Provider	VARCHAR2 (3)	PK,NN	Y
DESCRIPTION	Class Description	VARCHAR2 (30)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.3.2 MF_BUSINESS_ASSOCIATES

Transfer Timing: Daily transfer at approximately 12:30 AM

Description: The Master File Business Associates table provides detailed information about a Market Participant.

Rule Reference: Clause 2.31.5(a).

MF_BUSINESS_ASSOCIATES (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
BUS_ASSOC_ID	Business Associate ID	NUMBER (15,0)	PK,NN	Y
ADDRESS	Address	VARCHAR2 (60)		Y
CITY	City	VARCHAR2 (20)		Y
STATE	State	VARCHAR2 (20)		Y
ZIP	Zip	VARCHAR2 (15)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
COUNTRY	Country	VARCHAR2 (20)		Y
PHONE	Phone	VARCHAR2 (20)		Y
FAX	Fax	VARCHAR2 (20)		Y
EMAIL	Email	VARCHAR2 (50)		Y
URL	URL	VARCHAR2 (100)		Y
NAME	Market Participant Name	VARCHAR2 (50)	NN	Y
SHORT_NAME	Market Participant Short Name	VARCHAR2 (12)	NN	Y
BUS_ASSOC_NUMBER	Business Associate Number that is replicated to Funds Administration System.	VARCHAR2(12)	NN	Y
BUS_PRESIDENT	Authorized Person	VARCHAR2(20)	NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
NOMINATED_MAX_QUANTITY	Nominated Maximum Quantity	NUMBER(15,3)		Y
DSM_FIGURE	DSM Figure	NUMBER(15,3)		Y
NOTIFICATION_COMMENT	Used by the operator and Market Participant to exchange notes with respect to the registration data.	VARCHAR2(250)	NN	Y
SPECIAL_MEMBER	G – WP Generator; R- WP Retail N- WP Network T - Others	CHAR(1)	NN	Y
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.3.3 MF_BA_SCHEDULE

Transfer Timing: Daily transfer at approximately 12:35 AM.

Description: The Master File Business Associates Schedule table contains information about the Business Associates' activity including their status and schedule.

Rule Reference: Clause 2.31.5 (a).

MF_BA_SCHEDULE (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
BUS_ASSOC_ID	Business Associate ID	NUMBER (15)	PK,NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
START_DATE	Start Date for Activity of Participant (DD/MM/YYYY)	DATE	PK,NN	Y
END_DATE	End Date for Activity of Participant (DD/MM/YYYY)	DATE		Y
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y
REQUEST_TYPE	Request Type	CHAR (1)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
NOTIFICATION_COMMENT	Used by the operator and Market Participant to exchange notes with respect to that registration data.	VARCHAR2(250)		Y

3.3.4 MF_BA_CLASS_XREFS

Transfer Timing: Daily transfer at approximately 12:35 AM.

Description: The Master File Business Associates Classes cross-reference table contains the mapping information between Business Associate IDs and Class IDs.

Rule Reference: Clause 2.31.5(a).

MF_BA_CLASS_XREFS (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
BUS_ASSOC_ID	Business Associate ID	NUMBER (15,0)	PK,NN	Y
CLASS_ID	Class ID	VARCHAR2 (3)	PK,NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
EFF_DATE	Relationship Effective Date (DD/MM/YYYY)	DATE	PK,NN	Y
EXP_DATE	Relationship Expiration Date (DD/MM/YYYY)	DATE		Y
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.3.5 MF_DELIVERY_POINTS

Transfer Timing: Daily transfer at approximately 12:30 AM.

Description: The Master File Delivery Points table contains information about the delivery points that are registered in the system. Generators who have been approved to participate in Balancing and Load Following Ancillary Services are indicated in this file.

Note that this interface will provide a list of resources that are able to actively participate in the Balancing and LFAS Markets, however the actual registration process for these resources will managed separately as an extension to the existing registration processes.

Rule Reference: Clause 2.31.5(a).

MF_DELIVERY_POINTS (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
RES_ID	Resource ID	NUMBER (15,0)	PK,NN	Y
RES_TYPE	Resource Type Valid Values are: SG - Scheduled Generator NG - Non-Scheduled Generator IMG - Intermittent Generator CL – Curtailable Load DL - Dispatchable Load NL - Non-Dispatchable Load IL - Interruptible Load IMNL - Intermittent Non-Dispatchable Load IMCL - Intermittent Curtailable Load IMIL - Intermittent Interruptible	VARCHAR2 (12)	NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
	Load TN - Transmission Network DN - Distribution Network DSP - Demand Side Programme			
RES_SUBTYPE	REG - Regular SIL - Supplying Intermittent Load EG - Excess Generation MBI - Metered Behind Intermittent Load	VARCHAR2(12)		Y
RES_NAME	Resource Name	VARCHAR2 (32)	NN	Y
IM_RES_NAME	Indicates the intermittent load to which this resource is connected	VARCHAR2(32)		Y
OR_MARKET	Ancillary Service Type 0 - No ANC 1 - LF 2 - SPIN 3 - LF + SPIN	NUMBER(5,0)	NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
	4 - 15R 5 - LF + 15R 6 - SPIN + 15R 7 - LF + SPIN + 15R 8 - LR 9 - LR + LF 10 - LR + SPIN 11 - LR + LF + SPIN 12 - LR + 15R 13 - LR + 15R + LF 14 - LR + 15R + SPIN 15 - LR + 15R + LF + SPIN 16 - BM 17 - BM + LF 18 - BM + SPIN 19 - BM + LF+ SPIN 20 - BM + 15R 21 - BM + LF + 15R 22 - BM + SPIN + 15R 23 - BM + LF + SPIN + 15R			

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
	24 - BM + LR 25 - BM + LR + LF 26 - BM + LR + SPIN 27 - BM + LR + LF + SPIN 28 - BM + LR + 15R 29 - BM + LR + 15R + LF 30 - BM + LR + 15R + SPIN 31 - BM + LR + 15R + LF + SPIN			
FACILITY_STATUS	Facility Status P – Proposed C – Committed R - Registered D – Deregistered	CHAR(1)	NN	Y
RTE_MARKET	Energy Market participation flag (Y/N)	CHAR(1)	NN	Y
CR_MARKET	First time Reserve Capacity Certification flag (Y/N)	CHAR(1)	NN	Y
CONNECTION_POINT	Connection Point	VARCHAR2(32)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
TEMP_METHOD	Temperature Method(1 - SCADA, 2- BOM, 3 - 41C default)	NUMBER(1)	NN	Y
BOM_LOCATION	Measurement Point	VARCHAR2(32)		Y
DISPATCH_TOLERANCE	Dispatch Tolerance	NUMBER(11, 3)		Y
AGGREGATED_FACILITY	Aggregated Facility (Y/N) flag	CHAR(1)		Y
EFF_DATE	Effective Date (DD/MM/YYYY)	DATE	PK,NN	Y
EXP_DATE	Expiry Date (DD/MM/YYYY)	DATE		Y
OLD_FLG	Indicates if data set is an old resource whose ownership is being changed/re-registered	VARCHAR2 (1)		Y
OLD_RESNAME	Indicates previous registered resource identification	VARCHAR2 (32)		Y
OLD_MPNAME	Indicates previous registered Market Participant identification	VARCHAR2 (12)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
NOTIFICATION_COMMENT	Used by the operator and Market Participant to exchange notes with respect to the set registration data.	VARCHAR2 (250)		Y

3.3.6 MF_GENERATOR_PARAMETERS

Transfer Timing: Daily transfer at approximately 12:35 AM.

Description: The Master File Generator Parameter table provides information about the generator and its parameters as defined in the system.

Rule Reference: Clause 2.34.1.

MF_GENERATOR_PARAMETERS (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
RES_ID	Resource ID	NUMBER(15,0)	PK, NN	Y
EFF_DATE	Effective date (DD/MM/YYYY)	DATE	PK, NN	Y
EXP_DATE	Expiry date (DD/MM/YYYY)	DATE		Y
FUEL TYPE	L-Liquid / N - Non- Liquid / D - Dual	CHAR(1)		Y
MIN_STABLE_GEN	Minimum stable generation	NUMBER(15,3)		Y
MIN_DISPATCHABLE_GEN	Minimum dispatchable generation	NUMBER(15,3)		Y
MIN_TIME_SYNC_COLD	Minimum synchronization time for cold start condition	NUMBER(8,2)		Y
MIN_TIME_SYNC_WARM	Minimum synchronization time for warm start condition	NUMBER(8,2)		Y
MIN_TIME_SYNC_HOT	Minimum synchronization time for hot start condition	NUMBER(8,2)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
MIN_RESTART_TIME	Minimum time to restart	NUMBER(8,2)		Y
MIN_RESPONSE_TIME	Minimum time to respond	NUMBER(8,2)		Y
STARTUP_COST	Cost for start-up This field must have its value suppressed to 0 for transfer to System Management.	NUMBER(10,2)		Y
SHUTDOWN_COST	Cost for shutdown This field must have its value suppressed to 0 for transfer to System Management.	NUMBER(10,2)		Y
SENT_OUT_CAP	Sent out capacity	NUMBER(15,3)		Y
MIN_GEN_CAP	Minimum Generator Capacity	NUMBER(15,3)		Y
MAX_GEN_CAP	Maximum Generator Capacity (Will include MSG value for Excess Generation Facilities)	NUMBER(15,3)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
ALT_MIN_GEN_CAP	Minimum Generator Capacity running on liquid fuel	NUMBER(15,3)		Y
ALT_MAX_GEN_CAP	Maximum Generator Capacity running on liquid fuel (Will include MSG value for Excess Generation Facilities)	NUMBER(15,3)		Y
EXEMPT_FLAG	Exemption flag for intermittent generator from funding Spinning Reserve	CHAR(1)		Y
NAME_PLATE_CAP	Name Plate Capacity	NUMBER(15,3)		Y
PRIMARY_FUEL	Primary Fuel	VARCHAR2(50)		Y
MAX_RAMP_UP	Maximum Ramp Up Rate	NUMBER(15,3)		Y
MAX_RAMP_DOWN	Maximum Ramp Down Rate	NUMBER(15,3)		Y
EMERGENCY_RAMP_UP	Emergency Ramp Up Rate	NUMBER(15,3)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
EMERGENCY_RAMP_DOWN	Emergency Ramp Down Rate	NUMBER(15,3)		Y
ALT_RAMP_UP	Ramp Up Rate using liquid fuel	NUMBER(15,3)		Y
ALT_RAMP_DOWN	Ramp Down Rate using liquid fuel	NUMBER(15,3)		Y
OVERLOAD_CAP	Overload Capacity	NUMBER(15,3)		Y
MIN_DISP_TIME	Minimum Dispatchable Time in Minutes	NUMBER(8,2)		Y
ELAPSE_SYNC_COLD	Number of Hours elapsed for Cold Sync time.	NUMBER(8,2)		Y
ELAPSE_SYNC_WARM	Number of Hours elapsed for Warm Sync time.	NUMBER(8,2)		Y
ELAPSE_SYNC_HOT	Number of Hours elapsed for Hot Sync time.	NUMBER(8,2)		Y
SECONDARY_FUEL	Secondary Fuel	VARCHAR2(50)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
ALT_EMERGENCY_RAMP_UP	Ramp Up (Secondary Fuel)	NUMBER(15,3)		Y
ALT_EMERGENCY_RAMP_DOWN	Ramp Down (Secondary Fuel)	NUMBER(15,3)		Y
REDUCED_QUANTITY	Anticipated Reduction in the maximum capacity when the ambient temperature is 45 C	NUMBER(15,3)		Y
REMOTE_FLAG	Flag to indicate if the generator is located at a different connection point than the load being served (Y/N)	CHAR(1)		Y
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.3.7 MF_LOAD_PARAMETERS

Transfer Timing: Daily transfer at approximately 12:35 AM.

Description: The Master File Load Parameter table provides information about the load and its parameters defined in the system.

Rule Reference: Clause 2.34.1.

MF_LOAD_PARAMETERS (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
RES_ID	Resource ID	NUMBER(15,0)	PK, NN	Y
EFF_DATE	Effective Date (DD/MM/YYYY)	DATE	PK, NN	Y
EXP_DATE	Expiry Date (DD/MM/YYYY)	DATE		Y
MAX_CONSUMPTION_MWH	Maximum Consumption in MWh	NUMBER(15,3)		Y
MAX_DIS_MW	Maximum Dispatchable Load in MW.	NUMBER(15,3)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
MIN_DIS_MW	Minimum Dispatchable Load in MW.	NUMBER(15,3)		Y
MAX_RAMP_UP	Maximum Ramp Up Rate	NUMBER(15,3)		Y
MAX_RAMP_DOWN	Maximum Ramp Down Rate	NUMBER(15,3)		Y
EMERGENCY_RAMP_UP	Emergency Ramp Up Rate	NUMBER(15,3)		Y
EMERGENCY_RAMP_DOWN	Emergency Ramp Down Rate	NUMBER(15,3)		Y
MAX_IL_CL_MW	Maximum Interruptible/Curtailable Load	NUMBER(15,3)		Y
MAX_IL_CL_DURATION	Maximum Interruptible/Curtailable Load Duration in Minutes	NUMBER(8,2)		Y
MAX_IM_MWH	Maximum Intermittent Load	NUMBER(15,3)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
MAX_NON_METER_MWH	Maximum Non-Metered Consumption	NUMBER(15,3)		Y
NOMINATED_LOAD_LEVEL	Nominated Capacity Requirement	NUMBER(15,3)		Y
DISP_CAPACITY	Dispatchable Capacity	NUMBER(15,3)		Y
MIN_RESPONSE_TIME	Minimum Response Time	NUMBER(8,2)		Y
DSP_FLAG	Demand Side Program flag (Y/N)	CHAR(1)		Y
ASSOC_DSP	Associated Demand Side Program	VARCHAR2(32)		Y
REDUCED_QUANTITY	Anticipated Reduction in maximum capacity when ambient temperature is 45°C	NUMBER(15,3)		Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.3.8 MF_DP_SCHEDULE

Transfer Timing: Daily transfer at approximately 12:35 AM.

Description: The Master File Delivery Point Schedule table contains information about the Delivery Points/Resources activity including its status and schedule.

Rule Reference: Clause 2.34.1.

MF_DP_SCHEDULE (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
RES_ID	Resource ID	NUMBER	PK,NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
		(15,0)		
START_DATE	Resource Activity Start Date (DD/MM/YYYY)	DATE	PK,NN	Y
END_DATE	Resource Activity End Date (DD/MM/YYYY)	DATE		Y
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y
REQUEST_TYPE	Request Type A - APPLICATION, S - SUSPEND, T - DE-REGISTER, R - REACTIVATE	CHAR2(1)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation	DATE	NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
	Date (DD/MM/YYYY HH24:MI:SS)			
NOTIFICATION_COMMENT	Used by the operator and Market Participant to exchange notes with respect to that registration data.	VARCHAR2 (250)		Y

3.3.9 MF_BA_DP_XREFS

Transfer Timing: Daily transfer at approximately 12:35 AM.

Description: The Master File Business Associates Delivery Point cross-reference table contains mapping information between Business Associate IDs and Delivery Point IDs. The relation table below defines the registered Market Participant for the Facility.

Rule Reference: Clause 2.34.1.

MF_BA_DP_XREFS (Data Elements)

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
RES_ID	Resource ID	NUMBER (15,0)	PK,NN	Y

XML Data Set Element Name	Description	Data Type	MF Repository Constraints	Required by SM?
BUS_ASSOC_ID	Business Associate ID	NUMBER (15,0)	PK,NN	Y
RELATIONSHIP_TYPE	Relationship Type (RMP)	VARCHAR2 (12)	NN	Y
EFF_DATE	Relationship Effective Date (DD/MM/YYYY)	DATE	PK,NN	Y
EXP_DATE	Relationship Expiration Date (DD/MM/YYYY)	DATE		Y
ETN	Electronic Tracking Number	VARCHAR2 (64)	NN	Y
REQUEST_TYPE	Request Type	CHAR (1)	NN	Y
LAST_UPDATE_DATE	Last System Updated Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
CREATION_DATE	Record Creation Date (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.4 Data to System Management – Reserve Capacity Data

3.4.1 RC_CERTIFIED_CAPACITY

Transfer Timing: Daily transfer at approximately 12:36 AM.

Description: The table below lists data elements to define the Certified Reserve Capacity of the Facility, the Reserve Capacity Obligation Quantity of the Facility at 41°C and 45°C (if applicable). It also includes, for Interruptible Loads, Dispatchable Loads and Demand Side Programmes, the maximum number of times that interruption can be called during the term of the Capacity Credits.

Rule Reference: Clause 2.34.1.

RC_CERTIFIED_CAPACITY (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CAPACITY_YEAR	Capacity Year (DD/MM/YYYY)	DATE	UK, NN	Y
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
RESOURCE_TYPE	Resource Type	VARCHAR2(4)	UK, NN	Y
FACILITY_STATUS	Facility Status	CHAR(1)	NN	Y
PROJ_APPROVAL_DATE	Project Approval Date	DATE		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
	(DD/MM/YYYY)			
PROJ_FINANCING_DATE	Project Financing Date (DD/MM/YYYY)	DATE		Y
PROJ_SITE_PREP_DATE	Project Site Preparation Date (DD/MM/YYYY)	DATE		Y
PROJ_CONSTR_START_DATE	Project Construction Start Date (DD/MM/YYYY)	DATE		Y
EQUIP_INSTALLTION_DATE	Equipment Installation Date (DD/MM/YYYY)	DATE		Y
COMMISSION_TRIALS_DATE	Commission Trials Date (DD/MM/YYYY)	DATE		Y
FULL_CAPACITY_OBLIG_DATE	Full Capacity Obligation Date (DD/MM/YYYY)	DATE		Y
ACT_COMMISSION_DA	Actual Commission	DATE		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
TE	Date (DD/MM/YYYY)			
DECOMMISSION_DATE	Decommission Date (DD/MM/YYYY)	DATE		Y
FORCED_OUTAGE_RATE	Forced Outage Rate	NUMBER(9,3)		Y
UNFORCED_OUTAGE_RATE	Unforced Outage Rate	NUMBER(9,3)		Y
ACT_FORCED_OUTAGE_RATE	Actual Forced Outage Rate	NUMBER(9,3)		Y
ACT_UNFORCED_OUTAGE_RATE	Actual Unforced Outage Rate	NUMBER(9,3)		Y
CONDITIONAL_CONFIRMATION		CHAR(1)	NN	Y
CERTIFICATION_METHODOLOGY		CHAR(1)	NN	Y
NCS_CONTRACT		CHAR(1)	NN	Y
CONDITIONAL_FLAG	Flag to indicate if this is conditional certification	CHAR(1)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CAPACITY_BLOCK	Capacity Block	CHAR(1)	UK, NN	Y
AVAILABLE_CAP_MW	Available MW submitted by MP for certification	NUMBER(9,3)	NN	Y
AVAILABLE_CAP_MW_HOT	Available MW at 45 C submitted by MP for certification	NUMBER(9,3)		Y
STIPULATED_DEFAULT_LOAD	Stipulated Default load	NUMBER(9,3)		Y
MAX_AVAIL_HOURS_PER_YEAR	Max Available hours per year	NUMBER(4,0)		Y
MAX_AVAIL_HOURS_PER_DAY	Max Available hours per day	NUMBER(2,0)		Y
MIN_DISPATCH_HOUR_IN_DAY	Minimum Dispatch hours per day	NUMBER(2,0)		Y
MAX_DISPATCH_HOUR_IN_DAY	Maximum Dispatch hours per day	NUMBER(2,0)		Y
MAX_ACT_CALLS_PER_YEAR	Max Actual Calls per year	NUMBER(5,0)		Y
AVAILABILITY_CLASS	Availability Class	CHAR(1)	UK, NN	Y
CERTIFIED_CAP_MW	Certified Capacity	NUMBER(9,3		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
	(Initial Capacity Obligation at 41 C)	)		
INITIAL_CAP_OBLIG_MW_HOT	Initial Capacity Obligation at 45 C	NUMBER(9,3)		Y
CERTIFIED_TIME_STAMP	Certified Time Stamp	DATE		Y
UPDATE_TIME	Update Time (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.4.2 RC_CAPACITY_CREDITS

Transfer Timing: Daily transfer at approximately 12:36 AM.

Description: The table below lists data elements to define the Capacity Credits held by a Facility.

Rule Reference: Clause 2.34.1.

RC_CAPACITY_CREDITS (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CAPACITY_YEAR	Capacity Year (DD/MM/YYYY)	DATE	UK, NN	Y
PARTICIPANT_NAME	see Common Data	VARCHAR2(12)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
	Types			
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
RESOURCE_TYPE	Resource Type	VARCHAR2(4)	UK, NN	Y
FACILITY_STATUS	Facility Status	CHAR(1)	NN	Y
ALT_RESOURCE_NAME	Alternate Resource Name whose certified capacity is being substituted as specified during MP submission	VARCHAR2(32)		Y
CAPACITY_BLOCK	Capacity Block	CHAR(1)	UK, NN	Y
AVAILABILITY_CLASS	Availability Class	CHAR(1)	UK, NN	Y
CAP_CREDITS_TOTAL	Total Capacity Credits	NUMBER(9,3)	NN	Y
CAP_CREDITS_IMO	Capacity Credits anticipated to be acquired through IMO	NUMBER(9,3)	NN	Y
START_DATE	Start Date (DD/MM/YYYY)	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
END_DATE	End Date (DD/MM/YYYY)	DATE		Y
UPDATE_TIME	Update Time (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.4.3 RC_SPA

Transfer Timing: Daily transfer at approximately 12:36 AM.

Description: The table below lists data elements to define the Special Price Arrangements and Network Control Service Contract details.

Rule Reference: Clause 2.34.1.

RC_SPA (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
AUCTION_YEAR	Auction Year at which the SPA was initiated (DD/MM/YYYY)	DATE	UK, NN	Y
START_DATE	Start Date (DD/MM/YYYY)	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
END_DATE	End Date (DD/MM/YYYY)	DATE	UK, NN	Y
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
RESOURCE_TYPE	Resource Type	VARCHAR2(4)	NN	Y
PARTICIPANT_NAME_ALT	Network Participant Name in case of NCS Service Contract	VARCHAR2(12)		Y
CAPACITY_BLOCK	Capacity Block	CHAR(1)	UK, NN	Y
AVAILABILITY_CLASS	Availability Class	CHAR(1)	NN	Y
CONTRACT_TYPE_FLAG	Capacity Credit Type. Valid values are: L - LTSPA S - STSPA N - NCS A – Supplementary Capacity	CHAR(1)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CAP_CREDITS	Capacity Credits Covered	NUMBER(11,3)		Y
YEARLY_PRICE_PER_MW	Cost per MW per year This field must have its value suppressed to 0 for transfer to System Management.	NUMBER(10,2)		Y
MONTHLY_PAYMENT_GUARANTEE	The Monthly Availability Payment for the Facility This field must have its value suppressed to 0 for transfer to System Management.	NUMBER(10,2)		Y
USAGE_PRICE_PER_MWH	Usage Cost in Case of NCS This field must have its value suppressed to 0 for transfer to System Management.	NUMBER(10,2)		Y
COMMENTS	Comments	VARCHAR2(25		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
		0)		
UPDATE_TIME	Update Time (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.4.4 RC_TEST_REQUEST

Transfer Timing: Transferred on demand when a RC test is required.

Description: The table below lists data elements to define the Reserve Capacity Test Request details.

Rule Reference: Clause 4.25.7.

RC_TEST_REQUEST (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CREATION_DATE	Record Creation Date	DATE (DD/MM/YYYY HH24:MI:SS)	UK, NN	Y
REQUEST_ID	Request Identification Number	NUMBER(18,0)	PK,NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
FUEL_TYPE	Fuel Type L – Liquid N – Non-liquid	CHAR(1)	NN	Y
START_DATE	Start of the period where the test is to be performed after the start date.	DATE	NN	Y
END_DATE	End of the period where the test is to be performed prior to the end date.	DATE	NN	Y

3.4.5 RC_TEST_CANCELLATION

Transfer Timing: Transferred on demand when a RC test is required to be cancelled.

Description: The table below lists data elements to define the Reserve Capacity Test Request Cancellation details.

Rules Reference: Clause 4.25.3.

RC_TEST_CANCELLATION (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
CREATION_DATE	Record Creation Date	DATE (DD/MM/YYYY	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by SM?
		HH24:MI:SS)		
REQUEST_ID	Request Identification Number	NUMBER(18,0)	PK,NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	NN	Y
FUEL_TYPE	Fuel Type L – Liquid N – Non-liquid	CHAR(1)	NN	Y

3.5 Data from System Management – Trading Data

3.5.1 LOAD_FORECAST

Transfer Timing: Transferred daily by 7:30 AM.

Description: The table below lists data elements to define Load Forecast data. The file is transferred for information purposes once daily.

Rule Reference: Clause 7.2.1.

LOAD_FORECAST (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
ZONE_NAME	Currently Only one Zone with Value 'WEMS'	VARCHAR2(32)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
FORECAST_TYPE	Forecast type flag. Values are: I – Information	CHAR(1)	UK, NN	Y
FORECAST_MWH	Forecast MW Hour (Sent out values, loss adjusted to Muja)	NUMBER(11,3)	NN	Y
FORECAST_MW	Forecast MW (Sent out values, loss adjusted to Muja)	NUMBER(11,3)	NN	Y
FORECASTED_AT_TIME	Forecast Time (DD/MM/YYYY	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	HH24:MI:SS)			

3.5.2 LOAD_FORECAST_BALANCING

Transfer Timing: Updated Load Forecast information for Balancing will be sent to the IMO each time System Management has new information on which to determine these quantities, which is not required more than once per Trading Interval.

Description: The table below lists data elements to define Load Forecast data.

Rule Reference: Clause 7A.3.15.

LOAD_FORECAST_BALANCING (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
ZONE_NAME	Currently Only one Zone with Value 'WEMS'	VARCHAR2(32)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
FORECASTED_AT_TIME	Forecast Time (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y
FORECAST_EOI_MW	Forecast MW at end of Interval. (Sent out, not loss adjusted)	NUMBER(11,3)	NN	Y

3.5.3 NON_SCHEDULED_GENERATION_FORECAST

Transfer Timing: By 1 December 2013, updated Non-Scheduled Generation forecast information for Balancing will be sent to the IMO each time System Management has new information on which to determine these quantities, which is not required more than once per Trading Interval.

Description: The table below lists data elements to define the Non-Scheduled Generation forecast data per Facility. The data is provided to allow integration of Non-Scheduled Generation (including wind) into the Balancing Market.

Rule Reference: Clause 7A.3.15.

NON_SCHEDULED_GENERATION_FORECAST (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	Types			
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y
FORECAST_MW	Forecast MW at end of Trading Interval (sent out, not loss adjusted)	NUMBER(11,3)	NN	Y
FORECASTED_AT_TIME	Forecast Time (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.5.4 NON_SCHEDULED_SYSTEM_GENERATION_FORECAST

Transfer Timing: First transfer by 4:00 PM on the Scheduling Day.

Updated Non-Scheduled system generation forecast information for Balancing will be sent to the IMO as and when forecasts are prepared by System Management, covering Trading Intervals within the Trading Day and Scheduling Days.

Description: The table below lists data elements to define the Non-Scheduled system generation forecast data, which are system totals for all available Non-Scheduled generation. The data is provided to allow integration of Non-Scheduled generation (including wind) into the Balancing Market.

Rule Reference: Clauses 7A.3.15 and 7.6A.2(e).

NON_SCHEDULED_SYSTEM_GENERATION_FORECAST (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
FORECAST_MW	Forecast MW of NSG at end of Trading Interval (Sent out, not loss adjusted)	NUMBER(11,3)	NN	Y
FORECASTED_AT_TIME	Forecast Time (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

3.5.5 LFAS_REQUIREMENT

Transfer Timing: By 12:00 PM on the Scheduling Day. Additional LFAS Quantity requirements may be sent, as and when required by System Management, for any Trading Interval in the Balancing Horizon for which the LFAS Gate Closure plus [60 Minutes], has not occurred.

Description: The table below lists data elements to define the LFAS requirement. The LFAS requirement is a value that describes the size (in MW) of the UP and DOWN bands required by System Management for provision of LFAS.

Rule Reference: Clauses 7B.1.4 and 7B.1.5.

LFAS_REQUIREMENT (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
LFAS_UP_REQUIREMENT	LFAS UP Band Size Requirement in MW	NUMBER(15,3)	NN	Y
LFAS_DOWN_REQUIREMENT	LFAS DOWN Band Size Requirement in MW	NUMBER(15,3)	NN	Y

3.5.6 OUTAGES

Transfer Timing: As soon as practicable after outage information received by System Management, but at minimum twice daily:

Between 8:00 AM and 8:30 AM for ex-ante outage schedule.

By 12:00 PM for ex-post outage schedule (up to 15 Business Days after the Trading Day).

Description: The table below lists data elements to store Outage information. These outages include scheduled outages as well as network outages.

Rule Reference: Clauses 7.3.4 and 7.13.1A(b).

OUTAGES (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
OUTAGE_ID	Unique identifier of each Outage sent.	NUMBER(15,0)	UK, NN	Y
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
OUTAGE_REASON_FLAG	Outage Reason Flag. Values are: P – Planned; F – Forced; C - Consequential	CHAR(1)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
EXPOST_FLAG	Ex-Post Post Flag. Values are: N - Ex-Ante (for STEM and Balancing advisories) Y - Ex-post (for Balancing, Reserve Capacity and compliance)	CHAR(1)	UK	Y
CANCEL_FLAG	Cancel Flag. Values are: Y – Yes N - No; If the outage is later cancelled	CHAR(1)		Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
OUTAGE_MW	Outage MW	NUMBER(9,3)		Y
RECOVERY_TIME	Recovery Time in Minutes. (Used In case emergency restoration)	NUMBER(6,0)		Y
OUTAGE_DESC	Outage Description	VARCHAR2(250)		Y
RISK_ASSESSMENT	Risk Assessment	VARCHAR2(250)		Y
OUTAGE_CONTINGENCY_PLAN	Outage Contingency Plan	VARCHAR2(250)		Y

3.5.7 REAL_TIME_OUTAGE

Transfer Timing: As soon as practicable after outage information/updates are received by System Management as defined by the relevant rule reference.

Description: The table below lists data elements to store Outage information. These outages include scheduled outages for all Scheduled Generators and Non Scheduled Generators

Rule Reference: Clauses 7.13.1D, 7.13.1E.and 7.13.1F

REAL_TIME_OUTAGE (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required By IMO?
OUTAGE_ID	Unique identifier of each Outage sent.	NUMBER(15,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	NN	Y
AMENDMENT_TIME	Time which the outage record was created or amended (DD/MM/YYY HH24:MI:SS)	DATE	NN	Y
OUTAGE_STATUS	Outage status as determined by System Management 0000 – Submitted 0004 – Accepted 0005 – Accepted with Conditions 0006 – Approved 0008 – Rejected 0009 – Cancelled By SM 0010 – Cancelled By MP	CHAR(4)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required By IMO?
	0027 – Recalled 0028 – Not Accepted			
VERSION	Outage Version for the given Outage ID as determined by System Management	NUMBER(4,0)	UK, NN	Y
TYPE	Outage Reason Flag. Values are: S – Scheduled (Planned) O – Opportunistic Maintenance (Planned) F – Forced; C - Consequential	CHAR(1)	NN	Y
START_TIME	Start time (Calendar) of the outage (DD/MM/YYY HH24:MI:SS)	DATE	NN	Y
END_TIME	End time (Calendar) of the outage (DD/MM/YYY HH24:MI:SS)	DATE	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required By IMO?
OUTAGE_MW	Outage MW (MR 7.13.1E(d) or MR 7.13.1G(d))	NUMBER(9,3)		Y
RECOVERY_TIME	Recovery Time in Minutes. (Used In case emergency restoration)	NUMBER(6,0)		Y
DESCRIPTION	Outage Description	VARCHAR2(4000)		Y
RISK_ASSESSMENT	Risk Assessment	VARCHAR2(4000)		Y
CONTINGENCY_PLAN	Outage Contingency Plan	VARCHAR2(4000)		Y

~~3.5.7~~3.5.8 OPERATIONAL_LOAD

Transfer Timing: Daily transfer by 10:00 AM for data for the previous Trading Day (T-1). The IMO may extend the data provision deadline by up to two Business Days.

Description: The table below lists data elements to define the Operational Load for each date. This information is required for compliance and informational purposes for Market Participants. Refer to the RELEVANT_DISPATCH_QUANTITY interface for Balancing RDQ information.

Rule Reference: Clause 7.13.4.

OPERATIONAL_LOAD (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
ZONE_NAME	Currently, Only one Zone with Value 'WEMS'	VARCHAR2(32)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
LOAD_MWH	Operational load in MWh. (Sent out values, loss adjusted to Muja)	NUMBER(11,3)		Y
EST_LOAD_SHED_MW	Estimated	NUMBER(11,3)		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	load shed in MW if load shedding occurred.			
RESOURCE_PLAN_SHORT_FALL	Resource Plan Short Fall	NUMBER(11,3)		Y

~~3.5.8~~3.5.9 RELEVANT_DISPATCH_QUANTITY

Transfer Timing: Daily transfer of Provisional RDQ data from the previous Trading Day (T-1) by 10:00 AM. Daily transfer of Final RDQ data by 10:00 AM for the day before the previous Trading Day (T-2). The IMO may extend the data provision deadline by up to two Business Days.

Description: The table below lists data elements to define the Relevant Dispatch Quantity for each date.

This data is the basis for the Provisional and Final Balancing Price calculations for the Balancing Market, using the System Management estimate of the end of interval Relevant Dispatch Quantity (RDQ).

System Management will provide a “smoothed” RDQ value to identify the end of interval value for pricing purposes.

Rule Reference: Clauses 7.13.1(dB), 7.13.1(dC), 7A.3.7, 7A.3.9 and 7A.3.12.

RELEVANT_DISPATCH_QUANTITY (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
ZONE_NAME	Currently only one Zone with Value 'WEMS'	VARCHAR2(32)	UK, NN	Y
CREATION_DATE	RDQ Creation date/time (DD/MM/YYYY HH24:MI:SS)	DATE	UK	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
RDQ_EOI_SMOOTH	Relevant Dispatch Quantity (RDQ) – Smoothed total actual generation (MW) at end of Trading Interval (sent out, not loss adjusted)	NUMBER(11,3)	NN	Y
RDQ_TYPE	P – Provisional RDQ F – Final RDQ	CHAR(1)	NN	Y

~~3.5.9~~3.5.10 INTERVAL_RELEVANT_DISPATCH_QUANTITY

Transfer Timing: Transfer of Interval Provisional RDQ data within five minutes of the end of each Trading Interval.

Description: The table below lists data elements to define the RDQ for each date.

Rule Reference: Clauses 7.13.1(dB), 7.13.1(dC), 7A.3.7, 7A.3.9 and 7A.3.12.

RELEVANT_DISPATCH_QUANTITY (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
ZONE_NAME	Currently Only one Zone with Value 'WEMS'	VARCHAR2(32)	UK, NN	Y
CREATION_DATE	RDQ Creation date/time (DD/MM/YYYY HH24:MI:SS)	DATE	UK	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
RDQ_EOI_SMOOTH	Relevant Dispatch Quantity (RDQ) – total actual generation (MW) at end of Trading Interval (sent out, not loss adjusted).	NUMBER(11,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	The element name was reused from RELEVANT_DISPATCH_ QUANTITY to simplify system processing. This quantity is NOT smoothed			
RDQ_TYPE	P – Provisional RDQ	CHAR(1)	NN	Y

~~3.5.10~~3.5.11 DISPATCH_INSTRUCTIONS

Transfer Timing: Daily transfer by 12:00 PM for instructions and orders from the previous Trading Day.

Description: The table lists data elements to define Dispatch Instructions and Dispatch Orders.

Notification of Dispatch Instruction non-compliance (including deviation outside agreed tolerances) must also be identified as part of the transfer of Dispatch Instructions, however these details will be included in the COMPLIANCE interface and reference the relevant DISPATCH_ID within this interface.

Rule Reference: Clauses 7.13.1(a), 7.13.1(c) and 7.10.7(a).

DISPATCH_INSTRUCTIONS (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
DISPATCH_ID	Unique identifier of each Dispatch Instruction sent.	NUMBER(15,0)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
TIME_STAMP	Time at which Dispatch Instruction is issued. Resolution up to minutes. (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
TARGET_MW	Expected target MW at the end of the Trading Interval.	NUMBER(9,3)	NN	Y
RESPONSE_TIME	Time of Response (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
INST_TYPE	Instruction Type. Possible Values are: T – Target MW Output (for Balancing Facilities) R – Reduction (for DSP Participants) U – Return to Unconstrained Output	CHAR(1)		Y
RAMP_RATE	Ramp rate to use while responding to the instruction.	NUMBER(6,3)		Y
DISP_REASON_FLAG	Dispatch reason flag. Valid values are: F - Failure of Western Power Facility C - Instruction Cancellation O – Other	CHAR(1)		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
COMMENTS	Additional comments related to the Dispatch Instruction, if any.	VARCHAR2(250)		Y

~~3.5.11~~3.5.12 OPERATING_INSTRUCTIONS

Transfer Timing: Daily transfer by 12:00 PM for instructions for the previous Trading Day.

Description: The table lists data elements to define Operating Instructions. These instructions are advisories sent to Market Participants to request them to change their submissions to reflect a future Dispatch operation – typically related to generation testing. Operating Instructions are used in conjunction with Dispatch Instructions to notify participants to increase (or decrease) their generation for a future interval.

Rule Reference: Clause 7.13.1(cC).

OPERATING_INSTRUCTIONS (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
OPERATING_ID	Unique identifier of Operating Instruction sent.	NUMBER(15,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TIME_STAMP	Time at which Operating Instruction is issued. Resolution up to minutes. (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y
START_TIME	Time at which Operating Instruction starts. Resolution up to minutes. (DD/MM/YYYY HH24:MI)	DATE	NN	Y
END_TIME	Time at which Operating Instruction is to end. Resolution up to minutes. (DD/MM/YYYY HH24:MI)	DATE	NN	Y
QUANTITY	Instruction in which the Facility was to be operating (MW). To be populated as required by instruction type.	NUMBER(9,3)		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
INST_REASON_FLAG	Instruction reason flag. Valid values are: T - If Facility is undergoing Commissioning Test in the interval P - If Facility is undergoing Reserve Capacity Test in the interval N - If the dispatch is for NCS Contracts R – Supplementary Reserve Capacity O – Other	CHAR(1)	NN	Y
COMMENTS	Additional comments related to the Operating Instruction, if any.	VARCHAR2(250)		Y

~~3.5.12~~3.5.13 AS_ACTIVATION_INSTRUCTIONS

Transfer Timing: Daily transfer by 12:00 PM for instructions for the previous Trading Day.

Description: The table lists data elements to define AS Activation Instructions, which are "as sent" instructions from System Management to Market Participants advising them of their AS requirements for the relevant Trading Interval.

For LFAS, AS Activation Instructions are required to determine which Facilities (or the Verve Energy Balancing Portfolio) were instructed to operate. Although the IMO provides System Management with the list of the LFAS providers, if system conditions change, System Management may instruct Backup LFAS to operate.

System Management must issue and provide revised instructions or cancellation instructions for any Trading Interval where an LFAS provider was not able to fulfil its obligations for the full Trading Interval.

Rule Reference: Clauses 7.13.1(e), 7.13.1(eA), 7.13.1(eB), 7.13.1(eC) and 7B.4.2.

AS_ACTIVATION_INSTRUCTIONS (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
AS_ACTIVATION_ID	Unique identifier of AS Activation Instruction sent.	NUMBER(15,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y
TIME_STAMP	Time at which operation instruction is issued. Resolution up to minutes. (DD/MM/YYYY HH24:MI:SS)	DATE	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
DELIVERY_DATE	see Common Data Types	DATE	NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	NN	Y
AS_TYPE	Determines which type of AS: LU – LFAS UP Band LD – LFAS Down Band BU – Backup LFAS Up Band BD – Backup LFAS Down Band CU – Cancellation of LFAS Up instruction CD – Cancellation of LFAS Down instruction	CHAR(3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
SIZE	LFAS Band instruction in which the Facility was to be operating. (MW) Cancellation instruction must have a NULL value.	NUMBER(9,3)		Y
RESPONSE_TIME	Time of Response (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y
COMMENTS	Additional comments related to the LFAS instruction, if any.	VARCHAR2(250)		Y

~~3.5.13~~3.5.14 AS_RESPONSE_QUANTITIES

Transfer Timing: Daily transfer by 12:00 PM for instructions for the previous Trading Day.

Description: The table lists data elements to define the AS quantities (MWh) triggered by a system event, which are used in the determination of Out of Merit generation quantities for the Verve Energy Balancing Portfolio.

Rule Reference: Clause 7.13.1(eD).

AS_RESPONSE_QUANTITIES (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y
DELIVERY_DATE	see Common Data Types	DATE	NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	NN	Y
AS_TYPE	Determines which type of AS: ALR – Activated Load Rejection ASR – Activated Spinning Reserve	CHAR(3)	NN	Y
SIZE	Response quantities of Load Rejection or Spinning Reserve (MWh) not including any LFAS response.	NUMBER(9,3)	NN	Y

~~3.5.14~~3.5.15 DISPATCH_VOLUMES

Transfer Timing: Daily transfer by 12:00 PM required for Dispatch Volumes for the previous Trading Day.

Description: The table below lists data elements to define Dispatch Volumes. This data must be transferred at resource level for all Market Participants including resources within the Verve Energy Balancing Portfolio.

Rule Reference: Clauses 7.13.1(dA), 7.13.1(eF), 7.13.1(eG), 7.13.1(g) and 7.13.1(h).

DISPATCH_VOLUMES (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
VOLUME_FLAG	R - Reduction in MWh for Non-Scheduled Generators, IL and DSPs T - If Facility is undergoing Commissioning Test in the interval P - If Facility is undergoing Reserve Capacity Test in the interval N - If the dispatch is for NCS Contracts S - Supplementary Reserve Capacity U – Dispatchable Load (Upwards) D – Dispatchable Load (Downwards) O – Other	CHAR(1)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
QUANTITY_MWH	Reduction in MWh for Non-Scheduled Generators, IL and DSPs or Penalty Volume or Balance Support Volume or Quantity in MWh for NCS Contracts	NUMBER(9,3)		Y
MAXIMUM_SENT_OUT_MWH	Maximum amount of sent out energy (MWh) which each Non-Scheduled Generator would have supplied if no DI was issued. (only used for NSGs)	NUMBER(9,3)		Y
COMMENTS	Additional comments related to the Dispatch Instruction, if any.	VARCHAR2(250)		Y
FUEL_TYPE	L – Liquid N – Non Liquid	CHAR(1)		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
ACTUAL_TEST_INTERVAL	Y – Yes N – No Whether or not the RC Test was done during this interval.	CHAR(1)		Y

~~3.5.15~~3.5.16 RESOURCE_SCADA

Transfer Timing: Daily transfer by 12:00 PM for Resource SCADA data for the previous Trading Day.

Description: The table below lists data elements to define the telemetry data from SCADA. Refer to RESOURCE_EOI interface for Balancing resource information.

Rule Reference: Clause 7.13.1(cA).

RESOURCE_SCADA (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
RESOURCE_TYPE	Resource Type. SG - Scheduled Generator	VARCHAR2(4)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	NG - Non-Scheduled Generator IMG - Intermittent Generator DL - Dispatchable Load NL - Non-Dispatchable Load CL - Curtailable Load IL - Interruptible Load IMNL - Intermittent Non-Dispatchable Load IMCL - Intermittent Curtailable Load IMIL - Intermittent Interruptible Load			
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data	NUMBER(2,0)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	Types			
QUANTITY_MWH	Telemetered quantity in MWh. (Sent out values)	NUMBER(9,3)	NN	Y

~~3.5.16~~3.5.17 RESOURCE_EOI

Transfer Timing: Daily transfer of Provisional EOI data from the previous Trading Day (T-1) by 10:00 AM. Daily transfer of Final EOI data by 10:00 AM for the day before the previous Trading Day (T-2). The IMO may extend the data provision deadline by up to two Business Days.

Description: The table below lists data elements to define the EOI generation data from SCADA.

This interface transfers the "End Of Interval" (EOI) MW values to determine the Minimum and Maximum Theoretical Energy Schedules (TES) used for calculating Out of Merit quantities. EOI values are also used to determine the starting point for ramp rate constraining the Pricing BMO.

Rule Reference: Clauses 7A.3.7 and 7A.3.9.

RESOURCE_EOI (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
BUS_ASSOC_ID	see Common Data Types	NUMBER(15,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
RESOURCE_TYPE	Resource Type. SG - Scheduled Generator NG - Non-Scheduled Generator IMG - Intermittent Generator DL - Dispatchable Load NL - Non-Dispatchable Load CL - Curtailable Load IL - Interruptible Load IMNL - Intermittent Non-Dispatchable Load IMCL - Intermittent Curtailable Load IMIL - Intermittent Interruptible Load	VARCHAR2(4)	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
EOI_TYPE	P – Provisional Resource EOI F – Final Resource EOI	CHAR(1)	NN	Y
QUANTITY_EOI_MW	Smoothed generation quantity (MW) at end of interval (sent out, not loss adjusted) (Greater than or equal to zero)	NUMBER(9,3)	NN	Y

~~3.5.17~~3.5.18 **INTERVAL_RESOURCE_EOI**

Transfer Timing: Transfer of Interval Provisional EOI data within five minutes of the end of each Trading Interval.

Description: The table below lists data elements to define the EOI generation data from SCADA.

Rule Reference: Clauses 7A.3.7 and 7A.3.9.

RESOURCE_EOI (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
BUS_ASSOC_ID	see Common Data Types	NUMBER(15,0)	UK, NN	Y
RES_ID	see Common Data Types	NUMBER(15,0)	UK	Y
RESOURCE_TYPE	Resource Type. SG - Scheduled Generator NG - Non-Scheduled Generator IMG - Intermittent Generator DL - Dispatchable Load NL - Non-Dispatchable Load CL - Curtailable Load IL - Interruptible Load IMNL - Intermittent Non-Dispatchable Load IMCL - Intermittent Curtailable Load	VARCHAR2(4)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	IMIL - Intermittent Interruptible Load			
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
EOI_TYPE	P – Provisional Resource EOI	CHAR(1)	NN	Y
QUANTITY_EOI_MW	Generation quantity (MW) at end of interval (sent out, not loss adjusted) (Greater than or equal to zero)	NUMBER(9,3)	NN	Y

~~3.5.18~~3.5.19 ANC_SERV_DAILY

Transfer Timing: Daily transfer by 8:30 AM.

Description: The table below lists data elements to define the Participant Level Ancillary Service data used for STEM.

Rule Reference: Clauses 7.2.3A(a) and 7.2.3B.

ANC_SERV_DAILY (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)	UK, NN	Y
ANC_SERV_MWH	Participant portion of Daily Ancillary Service in MWh.	NUMBER(9,3)	NN	Y

~~3.5.19~~3.5.20 ANC_SERV_RESOURCES

Transfer Timing: Daily transfer by 8:30 AM.

Description: The table below lists data elements to define the Ancillary Service Resource data used for STEM.

Rule Reference: Clause7.2.3A(b).

ANC_SERV_RESOURCES (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y

~~3.5.20~~3.5.21 ANC_SERV_MONTHLY

Transfer Timing: Monthly on the first Business Day of the second month following the month in which the Trading Month commenced.

Description: The table below lists data elements to store the Ancillary Service Resource data.

Rule Reference: Clause 3.22.3.

ANC_SERV_MONTHLY (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_MONTH	Should be first day of the trade month. (DD/MM/YYYY)	DATE	UK, NN	Y
CONTRACT_ID	Identifier of the	VARCHAR2(12)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	Contract			
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
ANC_SERV_TYPE	Type of ancillary service. Valid values are: LF – Load Following SR – Spinning Reserve FMR – Fifteen Minute Reserve LRR – Load Rejection Reserve DSS – Dispatch Support Service SRS – System Restart Service	VARCHAR2(4)	UK, NN	Y
PRICE_FLAG	Price Flag (‘A’ or ‘P’) to indicate if Amount or Price is applicable.	CHAR(1)	NN	Y
ANC_SERV_TOTAL_MWH	Ancillary service total in MWh	NUMBER(11,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
ANC_SERV_TOTAL_AMT	Cost for total Ancillary services	NUMBER(10,2)	NN	Y
ANC_SERV_PRICE	Price of Ancillary service in $/MWh	NUMBER(10,2)		Y

~~3.5.21~~3.5.22 ANC_SERV_MONTHLY_QTY

Transfer Timing: Monthly on the first Business Day of the second month following the month in which the Trading Month commenced.

Description: The table below lists data elements to define Ancillary Services monthly quantity data.

Rule Reference: Clause 3.22.3.

ANC_SERV_MONTHLY_QTY (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data	NUMBER(2,0)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	Types			
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
ANC_SERV_TYPE	Type of ancillary service. Valid values are: LF – Load Following SR – Spinning Reserve FMR – Fifteen Minute Reserve LRR – Load Rejection Reserve DSS – Dispatch Support Service SRS – System Restart Service	VARCHAR2(4)	UK, NN	Y
ANC_SERV_MWH	Ancillary service in MWh	NUMBER(10,3)	NN	Y

~~3.5.22~~3.5.23 SM_TEMPERATURE_DATA

Transfer Timing: Daily transfer by 12:00 PM.

Description: The table below lists data elements to define temperature data used for settlements.

Rule Reference: Clause 7.13.1(cB).

SM_TEMPERATURE_DATA (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DAILY_MAX_TEMP	Daily Maximum Temperature	NUMBER(4,1)	NN	Y

~~3.5.23~~3.5.24 SM_FUEL_INFORMATION

Transfer Timing: Transferred on demand, as soon as practicable after System Management receive this information from Market Participants.

Description: The table below lists the data elements to define the Trading Interval level fuel for each Resource, where System Management has received a notification from the Market Participant about a fuel change. This information should only be provided by System Management for Facilities that actually declare a change in fuel (and only for the Trading Intervals to which this is applicable) after the fuel declarations have been provided to System Management by the IMO.

Rule Reference: Not applicable.

SM_FUEL_INFORMATION (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
PARTICIPANT_NAME	see Common Data Types	VARCHAR2(12)	UK, NN	Y
RESOURCE_NAME	see Common Data Types	VARCHAR2(32)	UK, NN	Y
RESOURCE_TYPE	Resource Type. SG - Scheduled Generation (Currently this information is only required for a Scheduled Generator)	VARCHAR2(4)	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_DATE	see Common Data Types	DATE	UK, NN	Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2)	UK, NN	Y
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2)	UK, NN	Y
FUEL_IN_USE	Fuel in Use Flag L – Liquid N - Non-liquid	CHAR(1)		Y

~~3.5.24~~3.5.25 SM_SCADA_TEMPERATURE_DATA

Transfer Timing: Daily transfer by 12:00 PM for SCADA temperature data for the previous Trading Day.

Description: The table below lists the data elements to derive interval based temperature data. SCADA temperature is used in the calculation of RCOQ and Reserve Capacity testing by the IMO.

Rules Reference: Clause 7.13.1(cB).

SM_SCADA_TEMPERATURE_DATA (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TEMP_ID	Temperature ID	VARCHAR2(32)	UK, NN	Y
READING_TIME	Reading timestamp	DATE	UK, NN	Y
TEMPERATURE	Temperature reading in C	NUMBER(4,1)	NN	Y

~~3.5.25~~3.5.26 LOADWATCH_LOAD_FORECAST

Transfer Timing: By 1 December 2013, weekly transfer by 9:00 AM, each Monday for a five day forecast for duration of the Hot Season

Description: The table below lists the data elements to define operational Load Forecast data for the next five days.

Rules Reference: Clause 2.1.2(e).

LOADWATCH_LOAD_FORECAST (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common	DATE	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
	Data Types			
OPERATIONAL_LOAD_MW	Operational load in MW. Forecasted total loss adjusted generator sent out energy.	NUMBER(11,3)	NN	Y

~~3.5.26~~3.5.27 LOADWATCH_TEMP_FORECAST

Transfer Timing: By 1 December 2013 weekly transfer by 9:00 AM, each Monday for a five day forecast for duration of the Hot Season.

Description: The table below lists the data elements to define day based minimum and maximum temperature forecast data used by Load Forecast for the next five days.

Rules Reference: Clause 2.1.2(e).

LOADWATCH_TEMP_FORECAST (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TRADE_DATE	see Common Data Types	DATE	UK, NN	Y
MAX_TEMP	Maximum temperature forecasted for the trade date.	NUMBER(4,1)	NN	Y
MIN_TEMP	Minimum temperature forecasted for the trade date.	NUMBER(4,1)	NN	Y

~~3.5.27~~3.5.28 SM_COMMISSIONING_TEST

Transfer Timing: By 1 December 2013, daily transfer by 8:30 AM.

Description: The table below lists the data elements to define Commissioning Test data and is used within the Settlements process. This interface was formally defined in Rule Change 2009 08 (Updates to Commissioning Provisions). This data must be transferred at resource level for all Market Participants including resources within the Verve Energy Balancing Portfolio.

Rules Reference: Clause 3.21A.16.

SM_COMMISSIONING_TEST (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
participantName	Participant Short Name	VARCHAR2(12)	UK, NN	Y
resourceID	Resource ID	NUMBER(15,0)	UK, NN	Y
outageNumber	Outage ID	NUMBER(18, 0)	UK	Y
testPeriod[@start]	Commissioning Test Starting Period (DD/MM/YYYY HH:MM)	DATE	UK, NN	Y
testPeriod[@end]	Commissioning Test Ending Period (DD/MM/YYYY HH:MM)	DATE	UK, NN	Y
Interval[@startTime]	Wraps the reported	DATE	UK	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
	usage for an interval (DD/MM/YYYY HH:MM)			
activePower	Quantity of active power	NUMBER(9, 3)	NN	Y
reactivePower	Quantity of reactive power	NUMBER(9, 3)	NN	Y
fuelMix	Compilation of up to 3 fuelTypes used for the interval	VARCHAR2(150)	NN	Y
fuelType	Fuel types available for Commissioning Test	VARCHAR2(50)	NN	Y
tripRisk	Risk of tripping H/M/L	CHAR(1)	NN	Y

~~3.5.28~~3.5.29 DISPATCH_ADVISORY

Transfer Timing: Transferred on demand, as soon as practicable after advisory is issued by System Management.

Description: The table below lists the data elements to define dispatch advisory data. A unique dispatch advisory is to be transferred for each situation requiring an advisory to be issued.

Rules Reference: Clauses 7.11.2, 7.11.3, 7.11.3A and 7.11.4.

DISPATCH_ADVISORY (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
DISPATCH_ADVISORY_ID	Dispatch Advisory ID	VARCHAR2(12)	NN	Y
ISSUE_DATE_TIME	Time Stamp of when the advisory was issued (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y
WITHDRAWAL	Flag to indicate withdrawal of previously issued advisory Y – Withdrawal of previous dispatch advisory. N – New dispatch advisory	CHAR(1)	UK, NN	Y
WITHDRAWAL_DATE_TIME	Time Stamp of when the advisory was withdrawn. (DD/MM/YYYY HH24:MI:SS)	DATE		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
OPERATING_STATE	Operating state at time of issue	VARCHAR2(150)	UK, NN	Y
START_DATE	Start Date of advisory (DD/MM/YYYY)	DATE	UK, NN	Y
START_HOUR	Hour of the Start time (0 – 23) e.g. 1 is 1am	NUMBER(2,0)	UK, NN	Y
START_INTERVAL	Interval within the Start Hour (1 or 2) 2 is interval starting on the half hour	NUMBER(2,0)	UK, NN	Y
END_DATE	End Date of Advisory (DD/MM/YYYY)	DATE		Y
END_HOUR	Hour of the End time (0 – 23) e.g. 1 is 1am	NUMBER(2,0)		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
END_INTERVAL	Interval within the End Hour (1 or 2) 2 is interval starting on the half hour	NUMBER(2,0)		Y
DA_CODE	Dispatch Advisory Code indicating purpose: O – Other DA Code will be expanded in future as codes are developed by System Management.	CHAR(1)	NN	Y
DETAILS	Description of Dispatch Advisory	VARCHAR2(500)	NN	Y
SM_ACTION	Description of action that System Management will take in	VARCHAR2(500)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
	relation of the Dispatch Advisory			
MP_ACTION_REQUIRED	Description of action that Market Participants and Network Operator must take.	VARCHAR2(500)		Y
MP_ACTION_OPTIONAL	Description of action that Market Participants may take.	VARCHAR2(500)		Y

~~3.5.29~~3.5.30 ST_PASA

Transfer Timing: By 1 December 2013, weekly – every Thursday by 4:30 PM.

Description: The table below lists the data elements to define the Short Term PASA data.

The Market Rules requires System Management to perform the ST PASA study every Thursday, covering the period from 8:00 AM of the following Friday for the following three weeks. The resolution of the ST PASA is six-hourly interval.

Rules Reference: Clause 3.17.1(a).

ST_PASA (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
RUN_DATETIME	The date and time of the ST PASA. DD/MM/YYYY HH24:MI:SS	DATE	UK, NN	Y
INTERVAL_DATETIME	The date and time at the 6-hour ST PASA study interval that the remaining data on the row applies DD/MM/YYYY HH24:MI:SS	DATE	UK, NN	Y
PEAKLOAD_MEAN	The system load that is expected (in MW)	NUMBER(9,3)	NN	Y
PEAKLOAD_MEANP1SD	The system load that is expected to occur or be exceeded 10% of the time (in MW)	NUMBER(9,3)	NN	Y
PEAKLOAD_MEANP2SD	The system load that is expected to occur or be exceeded 2% of the time (in MW)	NUMBER(9,3)	NN	Y
INSTALLED_GENERATION	The system installed generation on a sent out basis including	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
	both scheduled and non-scheduled generators (in MW)			
AVAILABLE_GENERATION	The system installed generation on a sent out basis including both scheduled and non-scheduled generators (in MW) less any scheduled generation undergoing an approved outage	NUMBER(9,3)	NN	Y
AVAILABLE_DEMANDRESPONSE	The system available demand side capacity on a sent out basis including both curtailable and dispatchable loads (in MW)	NUMBER(9,3)	NN	Y
UNSECURE_CAPACITY_MARGIN	PEAKLOAD_MEANP2SD less AVAILABLE _GENERATION less AVAILABLE DEMANDRESPONSE on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
TRANSMISSION_CON	Reserved for future use	NUMBER(9		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
STRAINT_QTY		,3)		
AVAILABLE_SUPPLY_CAPACITY	AVAILABLE _GENERATION plus AVAILABLE DEMANDRESPONSE on a sent out basis (in MW)	NUMBER(9 ,3)	NN	Y
PASA_RESERVE_MARGIN		NUMBER(9 ,3)	NN	Y
RESERVE_CAPACITY_REQ	Minimum Reserve Margin allowable for outage planning on a sent out basis (in MW)	NUMBER(9 ,3)	NN	Y
LOWCAPACITYRES_COND	Flag indicating that CAPACITY_PLANNING_MARGIN is less than RESERVE_CAPACITY_REQ 0 for no 1 for yes	CHAR(1)	NN	Y
LOAD_FOLLOW_AS_CAPREQ	Minimum Load Following Ancillary Service requirement on a sent out basis (in MW)	NUMBER(9 ,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
LOWLOADFOLOW_COND	Flag indicating that available load following ancillary service capacity is less than LOAD_FOLLOW_AS_CAPREQ 0 for no 1 for yes	CHAR(1)	NN	Y
SPINRES_AS_CAPREQ	Minimum Spinning Reserve Ancillary Service requirement on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
LOWSPINRES_COND	Flag indicating that available spinning reserve ancillary service capacity is less than LOAD_FOLLOW_AS_CAPREQ 0 for no 1 for yes	CHAR(1)	NN	Y
READYRES_CAPREQ	Minimum Ready Reserve requirement on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
LOWREADYRESERVE_COND	Flag indicating that available ready reserve capacity is less than	CHAR(1)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
	READYRESERVE_CAPREQ 0 for no 1 for yes			
LOADREJECT_ASREQ	Minimum Load Rejection Ancillary Service requirement on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
LOWLOADREJECTRES_COND	Flag indicating that available load rejection ancillary service capacity is less than LOADREJECT_AS_CAPREQ 0 for no 1 for yes	CHAR(1)	NN	Y
CAPACITY_PL_RESERVES_REQ	RESERVE_CAPACITY_REQ plus LOADFOLLOW_AS_CAPREQ plus SPINRES_AS_CAPREQ plus READYRES_CAPREQ on a sent out basis (in MW	NUMBER(9,3)	NN	Y

~~3.5.30~~3.5.31 MT_PASA

Transfer Timing: By 1 December 2013, monthly – by the 15th day of the month.

Description: The table below lists the data elements to define the Medium Term PASA data.

Rules Reference: Clauses 3.16.1, 3.16.2 and 3.16.9.

MT_PASA (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
RUN_DATETIME	The date and time of the MT PASA. DD/MM/YYYY HH24:MI:SS	DATE	UK, NN	Y
INTERVAL_DATE	The date at the start of the week long MT PASA study interval that the remaining data on the row applies DD/MM/YYYY	DATE	UK, NN	Y
PEAKLOAD_MEAN	The system load that is expected (in MW	NUMBER(9,3)	NN	Y
PEAKLOAD_MEANP1SD	The system load that is expected to occur or be exceeded 10% of the time (in MW)	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
PEAKLOAD_MEANP2SD	The system load that is expected to occur or be exceeded 2% of the time (in MW)	NUMBER(9,3)	NN	Y
INSTALLED_GENERATION	The system installed generation on a sent out basis including both scheduled and non-scheduled generators (in MW)	NUMBER(9,3)	NN	Y
AVAILABLE_GENERATION	The system installed generation on a sent out basis including both scheduled and non-scheduled generators (in MW) less any scheduled generation undergoing an approved outage	NUMBER(9,3)	NN	Y
AVAILABLE_DEMAND RESPONSE	The system available demand side capacity on a sent out basis including both curtailable and dispatchable loads (in	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
	MW)			
UNSECURE_CAPACITY_MARGIN	PEAKLOAD_MEANP2SD less AVAILABLE _GENERATION less AVAILABLE DEMANDRESPONSE on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
TRANSMISSION_CONSTRAINT_QTY	Reserved for future use	NUMBER(9,3)		Y
AVAILABLE_SUPPLY_CAPACITY	AVAILABLE _GENERATION plus AVAILABLE DEMANDRESPONSE on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
PASA_RESERVE_MARGIN		NUMBER(9,3)	NN	Y
RESERVE_CAPACITY_REQ	Minimum Reserve Margin allowable for outage planning on a sent out basis (in MW)	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
LOWCAPACITYRES_COND	Flag indicating that CAPACITY_PLANNING_MARGIN is less than RESERVE_CAPACITY_REQ 0 for no 1 for yes	CHAR(1)	NN	Y
LOAD_FOLLOW_AS_CAPREQ	Minimum Load Following Ancillary Service requirement on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
LOWLOADFOLOW_COND	Flag indicating that available load following ancillary service capacity is less than LOAD_FOLLOW_AS_CAPREQ 0 for no 1 for yes	CHAR(1)	NN	Y
SPINRES_AS_CAPREQ	Minimum Spinning Reserve Ancillary Service requirement on a sent out basis (in MW)	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
LOWSPINRES_COND	Flag indicating that available spinning reserve ancillary service capacity is less than LOAD_FOLLOW_AS_CAPREQ 0 for no 1 for yes	CHAR(1)	NN	Y
READYRES_CAPREQ	Minimum Ready Reserve requirement on a sent out basis (in MW)	NUMBER(9,3)	NN	Y
LOWREADYRESERVE_COND	Flag indicating that available ready reserve capacity is less than READYRESERVE_CAPREQ 0 for no 1 for yes	CHAR(1)	NN	Y
LOADREJECT_ASREQ	Minimum Load Rejection Ancillary Service requirement on a sent out basis (in MW)	NUMBER(9,3)	NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
LOWLOADREJECTRES_COND	Flag indicating that available load rejection ancillary service capacity is less than LOADREJECT_AS_CAPREQ 0 for no 1 for yes	CHAR(1)	NN	Y
CAPACITY_PL_RESERVES_REQ	RESERVE_CAPACITY_REQ plus LOADFOLLOW_AS_CAPREQ plus SPINRES_AS_CAPREQ plus READYRES_CAPREQ on a sent out basis (in MW)	NUMBER(9,3)	NN	Y

~~3.5.31~~3.5.32 COMPLIANCE

Transfer Timing: As required, or as defined by the relevant Market Rules reference.

Description: The table below lists the data elements to define compliance data.

Rules Reference: Clauses 7.10.7(a), 7.13.1A and 7.13.1(f).

COMPLIANCE (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
COMPLIANCE_ADVISORY_ID	Compliance Advisory ID	VARCHAR2(12)	UK, NN	Y
DISPATCH_ID	Unique identifier of Dispatch Instruction sent.	NUMBER(15,0)	UK	Y
OPERATING_ID	Unique identifier of Operating Instruction sent.	NUMBER(15,0)	UK	Y
AS_ACTIVATION_ID	Unique identifier of AS Activation Instruction sent.	NUMBER(15,0)	UK	Y
NC_SOURCE	SM – System Management VP – Verve Portfolio VS – Verve Standalone IP – IPP O – Other participant	CHAR(2)	UK, NN	Y
NC_REASON	Flag to indicate source of non-compliance: B – Balancing non-compliance. L – LFAS non-	CHAR(1)	UK, NN	Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
	compliance O – Other non-compliance			
START_DATE	Start Date of non-compliance (DD/MM/YYYY)	DATE	UK, NN	Y
START_HOUR	Hour of the Start time (0 – 23) e.g. 1 is 1am	NUMBER(2,0)	UK, NN	Y
START_INTERVAL	Interval within the Start Hour (1 or 2) 2 is interval starting on the half hour	NUMBER(2,0)	UK, NN	Y
END_DATE	Last date of non-compliance (DD/MM/YYYY)	DATE		Y
END_HOUR	Last hour of the End time (0 – 23) e.g. 1 is 1am	NUMBER(2,0)		Y

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO
END_INTERVAL	Last interval within the End Hour to be included. (1 or 2) 2 is interval starting on the half hour	NUMBER(2,0)		Y
QUANTITY	Quantity of non-compliance. (e.g. For Verve portfolio Balancing non-compliance this will be in MWh)	NUMBER(15,3)		Y
SM_RESPONSE	Reason for non-compliance / description of response that System Management took in relation to the non-compliance	VARCHAR2(1000)	NN	Y
MP_RESPONSE	Reason for non-compliance / description of response that Market Participant performed.	VARCHAR2(1000)		Y

3.6 Data From System Management – Real Time Data

3.6.1 REAL_TIME_DATA

Transfer Timing: Every 30 seconds, as soon as practicable after real-time.

Description: The format of the filename is DATASETNAME.yyyymmddhh24miss.xml. No receipts or acknowledgements are generated for these files.

This data is provided on a "best endeavours" basis, and discrepancies may exist between this data and that provided through the Resource SCADA/Operational Load files. This information is currently provided for informational purposes to Market Participants via the IMO Website.

The table below lists the data set to define real-time data.

Rule Reference: Clause 10.5.1(z).

REAL_TIME_DATA (Data Elements)

XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
TIME_STAMP	Time Stamp of when the data was collected (DD/MM/YYYY HH24:MI:SS)	DATE	UK, NN	Y
TRADE_DATE	see Common Data Types	DATE		Y
DELIVERY_DATE	see Common Data Types	DATE		Y
DELIVERY_HOUR	see Common Data Types	NUMBER(2,0)		Y

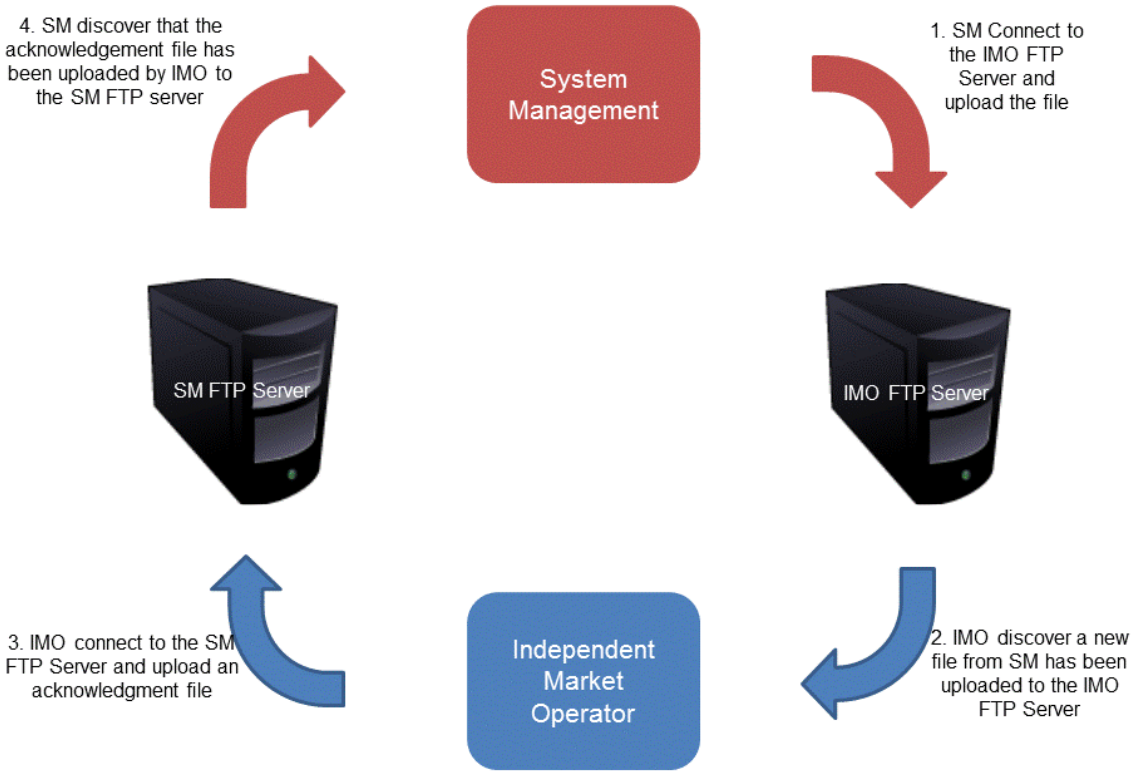
XML Data Set Element Name	Description	Data Type	Constraints	Required by IMO?
DELIVERY_INTERVAL	see Common Data Types	NUMBER(2,0)		Y
TOTAL_GENERATION	Total Generation (MWh)	NUMBER(10,2)		Y
TOTAL_SPINNING_RESERVE	Total Spinning Reserve (MWh)	NUMBER(10,2)		Y
OPERATIONAL_LOAD_ESTIMATE	Operational Load Estimate (MWh)	NUMBER(10,2)		Y

4 DATA TRANSFER MECHANISM

4.1 Overview

4.1.1 A high level overview of the data transfer process for when System Management sends files to the IMO using FTP appears below:

System Management sends a file via FTP to Independent Market Operator



Special Conditions

(a) If the IMO FTP server becomes unavailable the IMO may advise System Management to use the IMO back-up server for FTP file transfers.

(b) If the System Management FTP server becomes unavailable, System Management may advise the IMO to use the System Management back-up server for FTP file transfers.

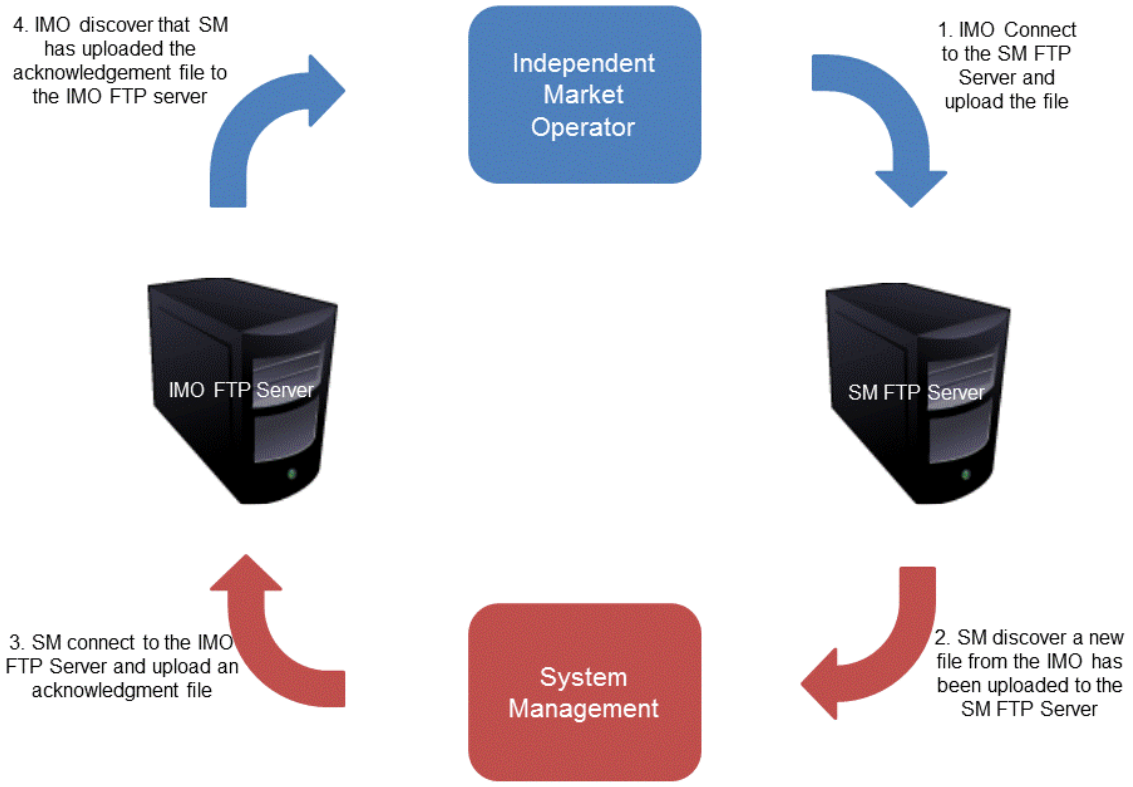
(c) The acknowledgement file must be generated and sent to System Management by the IMO following validation of a System Management initiated file transfer. The acknowledgement file contains file validation information to be used by the file transfer initiator to confirm the success of the transfer. If the acknowledgement file is not received by System Management within 5 minutes (or as defined in the Market Rules) of sending the file, System Management:

i. must immediately contact the IMO to request the IMO to confirm the receipt and validation status of the file, or to re-upload the file, if the file has no substitute that can be used for processing; or

ii. may contact the IMO to request the IMO to confirm the receipt and validation status of the file, or to re-upload the file, if the file has a substitute that can be used for processing.

4.1.2 A high level overview of the data transfer process for when the IMO sends files to System Management using FTP appears below:

Independent Market Operator sends a file via FTP to System Management



Special Conditions

(a) If the System Management FTP server becomes unavailable, System Management may advise the IMO to use the System Management back-up server for FTP file transfers.

(b) If the IMO FTP server becomes unavailable, the IMO may advise System Management to use the IMO back-up server for FTP file transfers.

(c) The acknowledgement file must be generated and sent to the IMO by System Management following validation of an IMO initiated file transfer. The acknowledgement file contains file validation information to be used by the file transfer initiator to confirm the success of the transfer. If the acknowledgement file is not received by the IMO within 5 minutes (or as defined in the Market Rules) of sending the file, the IMO:

i. must immediately contact System Management to request System Management to confirm the receipt and validation status of the file, or to re-upload the file, if the file has no substitute that can be used for processing; or

ii. may contact System Management to request System Management to confirm the receipt and validation status of the file, or to re-upload the file, if the file has a substitute that can be used for processing.

4.2 File Standard

4.2.1 The type of files that are sent between the IMO and System Management using the FTP exchange mechanism described above is Extensible Markup Language (XML). Reference: http://www.w3.org/XML/

4.2.2 The filenames of data files sent between the IMO and System Management must have the following format:

DATASETNAME.yyyymmddhh24miss.xml
(the seconds (ss) are optional for all files except the REALTIME_DATA filenames)

Example:
RES_PLAN_INTERVAL.201109151048.xml
The timestamp in the filename represents the time at which the file is created.

4.2.3 Full file contents are defined in section 3 of this document.

Example:

```
<?xml version = '1.0'?>
<RES_PLAN_PART_INTERVAL>
        <ROW num="1">
                <PARTICIPANT_NAME>ALCOA</PARTICIPANT_NAME>
                <TRADE_DATE>24/07/2310</TRADE_DATE>
                <DELIVERY_DATE>21/07/2210</DELIVERY_DATE>
```

4.3 File Contents Validation

4.3.1 All XML files transferred must be well-formed. Well-formed means that the sent file has “begin” and “end” document tags. It also means that all other elements have “begin” and “end” tags and are nested properly.

4.3.2 The receiving party must validate the XML file for correct syntax to ensure that the file is not corrupt. This first check ensures any file received is good enough to be transferred to the IMO or System Management application server(s) for further processing. It does not, however, imply that the contents are correct.

4.3.3 In addition to this basic validation, the IMO and System Management may, by agreement, extend this file validation to aid the file transfer process.

4.4 Acknowledgement (Receipt) File

4.4.1 An acknowledgement file is a plain text file with no filename extension with the exception of the files noted in section 4.4.4.

4.4.2 The format of a plain text acknowledgement filename must be the received file's filename prefixed with 'receipt-' and with the filename extension ('.xml') removed:

receipt-filename

Example:
If the filename of the received file is RES_PLAN_INTERVAL.201109151048.xml

Then the filename of the acknowledgement would be

receipt-RES_PLAN_INTERVAL.201109151048

4.4.3 The content of a plain text acknowledgment must be based on the file content's validation status. (See section 4.3)

Successfully parsed XML: SM-S-FILERECD: Successfully received well formed XML file <filename> at <current time>

System Management Success Example:

SM-S-FILERECRD: Successfully received well formed XML file MF_DELIVERY_PONTS.201005010030.xml at 20100514115344

IMO Success Example:

IMO-S-FILERECRD: Successfully received well formed XML file DISPATCH_VOLUMES.201005010030.xml at 20100514115344

Unsuccessful: IMO-E-FILERECD: Received poorly formed XML file <filename> at <current time>. Please check & resend.

IMO Unsuccessful Example:

IMO-E-FILERECD: Received poorly formed XML file DISPATCH_VOLUMES.201005010030.xml at 20100514115344. Please check & resend.

System Management Unsuccessful Example:

SM-E-FILERECRD: Received poorly formed XML file MF_DELIVERY_PONTS.201005010030.xml at 20100514115344. Please check & resend.

4.4.4 The following acknowledgement files will be sent in XML format:

- VERVE_PORTOFOLIO;
- BALANCING_MERIT_ORDER;
- FORECAST_QUANTITIES;
- LOAD_FOLLOWING;
- BLT_CONTRACTS;
- RES_PLAN_INTERVAL;
- RC_TEST_REQUEST; and
- RC_TEST_CANCELLATION.

4.4.5 The format of an XML acknowledgement filename must be consistent with the format agreed upon between the IMO and System Management.

4.5 Alternative/Backup Procedure

4.5.1 If files are failing to be sent and received using FTP, the IMO and System Management must support one another to identify and rectify the problem. During a Transfer Failure, the backup procedure will be activated:

(a) Contact the corresponding Market Operations Team via phone informing them of the situation (a file not being sent or received).

(b) Arrange for a backup transfer via backup FTP server (if available)

(c) In event of automated FTP failure, arrange for a manual FTP transfer.

(d) In the event of total FTP failure, arrange for transfer via email. The relevant contact details are:

Email:

IMO – Market Operations: *operations@imowa.com.au*

System Management: *market.operations@westernpower.com.au*

Phone:

IMO – Market Operations: (08) 9254 4336

System Management: (08) 9427 5943

4.6 FTP Server Details

4.6.1 The IMO and System Management must inform each other in advance when they switch between the Production and Backup Servers. This will give the other party time to point to the FTP Server that is now being used. In general the backup server will only be used when the primary system has become unavailable or is overloaded.