I-SEM Technical Specification (ITS)

VOLUME C: BALANCING MARKET
V16.0

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Document History

Version	Date	Author	Comment
1.0	3 June 2016	EirGrid and SONI	Initial Draft.
2.0	21 June 2016	EirGrid and SONI	Update with Settlement Reports (Section 6.7.11) and XML data set examples (Section 4.6).
3.0	19 August 2016	EirGrid and SONI	Update to include further detail on Balancing Market Registration (Section 4). Minor amendments to Reporting (Section 6) and Balancing Market Trading (Section 5), including content on SRA.
4.0	6 September 2016	EirGrid and SONI	Update to Settlement Document – addition of 3 rows within Settlement Document Summary Field Description and addition of the Settlement Document VAT Proportions Table Minor updates to Balancing Market Registration (Section 4.6) with the inclusion of applicable Resource Type validations and to Balancing Market Trading (Section 5) with the addition of footnotes.
5.0	31 January 2017	EirGrid and SONI	Update to AOLR Unit Report – removal of "Actual Demand" field.
6.0	5 May 2017	EirGrid and SONI	Minor updates to Section 5.5.5.2 (Generator Offer – Data Elements and Validations) and Section 5.5.6.2 (Demand Offer – Data Elements and Validations) Minor updates to Section 5.7.2 Physical Notifications Addition of the Dispatch Quantity Report
7.0	17 July 2017	EirGrid and SONI	DSU PN Changes Updates to SRA Validations
8.0	13 October 2017	EirGrid and SONI	Change name from NEMO to SEMOpx where applicable Update to User: Key Contacts and User:Authorisation validations and data types Minor update to Generator VTOD validations Minor update REPT_011 field formats Make Whole Payment I-SEM Reference Report updated to REPT_074 Updated field descriptions in Daily Technical Offer Data Report
9.0	01 December 2017	EirGrid and SONI	New reports added: REPT_101, REPT_102, REPT_103 Removed REPT_001a and REPT_002a Further updates outlined in I-SEM ITS R7 Release Notes
10.0	09 February 2018	EirGrid and SONI	1. Added the new field "accept_time" to REPT_057/058. 2. Updated filemask for filename on REPT_052 and REPT_053 to clarify the use of the Participant ID for these two member Private reports. 3. Added new subsection to 6.4 Report Query Validation for clarity on Type 3 (API) access for CSB reports from the MPI. 4. Updated REPT_043 description for CHARGE_SUMMARY: AMOUNT field to clarify the value is for all of the Market Participant's units. 5. Updated date (year) in document footer
11.0	28 March 2018	EirGrid and SONI	1. Updated "EXCESS" to "EXCEED" for CREDIT STATUS field in REPT_048 – Approved SDG #306 2. Clarification to summary description of Aggregated Physical Notifications report. 3. Clarification to REPT_012 and REPT_016 - the use of "GEN" as a permitted value, correcting use of "GU" 4. Updates to REPT_067 – Filename, RUN to RUN_TYPE, and updated sample XML image 5. Updated classification for REPT_052 to Member Public per request from RWG. Updated filename and report name.
12.0	31 July 2018	EirGrid and SONI	1. Clean up edits to the ITS pre go-live. Complete description of all changes made can be found in the I-SEM ITS Release 9.0, Release Notes, that accompany this document.

12.1	13 December 2018	EirGrid and SONI	1. Updated Report 50 to reflect ConstraintID field (already there, just a spec change) - Added table of plain-English description for Constraint IDs - Associated change to XSD schema file)
13.0	June 2019	EirGrid and SONI	1. Inclusion of Gate Closure Opening Report 2. Inclusion of CSB schema corrections per feedback from Participants
14.0	21 February 2020	EirGrid and SONI	1. REPT_045 – MO Invoice (Settlement Document) • Addition of FMOC tag into Field Name 'Market_Name 2. REPT_067 / BM-085– Settlement Calendar • Addition of FMOC tag into Field Name 'Market' 3. REPT_043 Settlement Statement • Addition of the FMOC tag into Field Name 'Market_Name
14.1	16 October 2020	EirGrid and SONI	4. REPT_057 – Energy Market Information Report • Changing of VALUE: ORDER from NUMBER(2) to STRING(25)
15.0	10/01/2022	EirGrid and SON	1. REPT_055/056 – Energy Market Financial Publication Report • Addition of the following reports to cover Energy Market Financial Publication Report for M+4, M+13 & Ad-hoc. • REPT_104 - Energy Market Financial Publication Report M+4 • REPT_105 - Energy Market Financial Publication Report M+13 • REPT_106 - Energy Market Financial Publication Report Ad-hoc 2. REPT_057/058 – Energy Market Information Report • Addition of the following reports to cover Energy Market Information Report for M+4, M+13 & Ad-hoc. • REPT_107 - Energy Market Information Report M+4 • REPT_108 - Energy Market Information Report M+13 • REPT_109 - Energy Market Information Report Ad-hoc 3. REPT_059/060 – Capacity Market Financial Report • Addition of the following reports to cover – Capacity Market Financial Report for M+4, M+13 & Ad-hoc. • REPT_110 - Capacity Market Financial Report M+4 • REPT_111 - Capacity Market Financial Report M+13 • REPT_112 - Capacity Market Financial Report Ad-hoc 4. REPT_061/062 – Capacity Market Information Report • Addition of the following reports to Capacity Market Information Report for M+4, M+13 & Ad-hoc. • REPT_113 - Capacity Market Information Report M+4 • REPT_114 - Capacity Market Information Report M+13

			• REPT_115 - Capacity Market Information Report Ad-hoc 5. REPT_063/064 – Metered Generation Information Report • Addition of the following reports to Capacity Market Information Report for M+4, M+13 & Ad-hoc. • REPT_116 - Metered Generation Information Report • M+4 • REPT_117 - Metered Generation Information Report M+13 • REPT_118 - Metered Generation Information Report Adhoc 6. REPT_066 – Metered Volumes by Jurisdiction. • Addition of the following reports to Metered Volumes by Jurisdiction Report for M+4, M+13 & Ad-hoc. • REPT_066 - Metered Volumes by Jurisdiction Report • M+4 • REPT_066 - Metered Volumes by Jurisdiction Report • M+13 • REPT_066 - Metered Volumes by Jurisdiction Report Adhoc 7. PUB_Daily Meter Data (Public). • Addition of the following reports to Metered PUB_Daily Meter Data (Public)for M+4, M+13 & Ad-hoc. • PUB_Daily Meter Data M+4 (Public) M+4 • PUB_Daily Meter Data M+13 (Public)M+13 • PUB_Daily Meter Data Adhoc (Public)
15.1	29 July 2022	EirGrid and SONI	REPT_044 – Settlement Report – new determinant (DS3_SSPF) added to APPENDIX C: DETERMINANTS MAPPING TO SETTLEMENT REPORTS
16.0	25/07/2024	EirGrid and SONI	Updates to Registration, Market Interface Data and Market Interface reports as a result of the Tranche 1 initiatives of the Scheduling and Dispatch Change Programme. Complete description of all changes made can be found in the I-SEM ITS Release 9.7, Release Notes, that accompany this document.

Distribution List

Name
All participants

Source / Reference Documents

Document Name	Document Reference
I-SEM ITS R9.7 Release Notes	I-SEM ITS R9.7 Release Notes

1 DISCLAIMER AND CONTENT INFORMATION

This document has been prepared to provide Participants with sufficient information in order to develop their own systems to interface with the I-SEM.

The following disclaimers relate to the content of this document and associated volumes and any use by Participants of the information provided therein.

1. EirGrid and SONI accept no responsibility for decisions made or actions taken by Participants as a result of the information presented in this document or associated documents. Furthermore, EirGrid and SONI do not indemnify any commercial or organisational decisions made by Participants in relation to the information herein.

2. This document represents the most up-to-date information on the I-SEM Systems as they have been developed. With this in mind, it is not appropriate simply to compare the document against the market rules; instead, the document is aligned with a release of the I-SEM Systems.

3. The information provided in this document is based entirely on documentation and information provided by the software vendor. Although EirGrid and SONI have made all reasonable efforts to ensure that the information presented is correct, it cannot guarantee the information provided.

4. Further changes to the processes described or schema elements presented may result as new information comes to light during future phases of the market development. To mitigate the impact of such changes, EirGrid and SONI will be issuing planned updates to this document and associated documents (where appropriate).

2   INTRODUCTION

2.1   SCOPE OF THIS VOLUME

The I-SEM Technical Specification[1] (ITS) comprises a number of volumes which provide participants with the information necessary for them to develop their own systems to interface with the I-SEM central market systems.

The volumes of the I-SEM Technical Specification are:

Volume	Document
A	I-SEM TS (Overarching Volume)
B	I-SEM TS (Technical Volume)
C	I-SEM TS (Balancing Market Volume)
D	I-SEM TS (SEMOpx Ex-Ante Markets Volume)
E	I-SEM TS (Capacity Market Volume)
F	Intentionally blank
G	I-SEM TS (Glossary)

Table 1: I-SEM Technical Specification Volumes

This volume covers all aspects of the Balancing Market Interface (previously known as the MPI and including the I-SEM Registration System) which forms part of the I-SEM Systems. This document principally addresses the **functional aspects** of the Balancing Market interface and is provided to enable Participants to communicate with the I-SEM Balancing Market Systems. A separate volume (B) covers the **technical aspects** of the Balancing Market interface.

The focus of this document is the Type 3 Communication Channel, i.e. submission and retrieval of I-SEM Data Transactions via Web Services. In addition, some of the introductory sections also refer to the Type 2 Communication Channel (i.e. data submission and retrieval using the Balancing Market Interface by Participant users), where such references are relevant.

Notes:
1. *References in this document to "query" relate to the retrieval of data from the I-SEM Systems as opposed to the concept of formal queries as defined in the Trading and Settlement Code.*
2. *Whilst this document refers to the market as "I-SEM", the market will continue to legally be referenced as the "Single Electricity Market (SEM)".*
3. *For the avoidance of doubt, please note that references in this document to 'NEMO' relate to SEMOpx.*

2.2   BALANCING MARKET INTERFACES

The entire suite of systems delivered by the I-SEM Market Operator/Transmission System Operators is known as the **I-SEM Systems**.

The **I-SEM Systems** include the **Balancing Market Interface**, which comprises:
1.   The **I-SEM Registration System** enables:
    a.   Interaction regarding SEMOpx registration, enabling ex-ante (non-balancing) trading;

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[1] The market arrangements and associated delivery project are known as the I-SEM, but parties are asked to note that the legal name for the new arrangements will be the Single Electricity Market (SEM).

b. Balancing Market Registration, including Participant and Unit registration, deregistration, interaction with SEMOpx regarding participation via Agent of Last Resort (AOLR), Trading Site registration etc.; and

c. Capacity Market registration.

2. The **I-SEM Balancing Market Trading Interface** enables trading in the Balancing Market (including submission/query of bids/offers, Technical Offer Data and retrieval of market reports).

2.3 STRUCTURE OF THIS VOLUME

The remainder of the I-SEM TS: Balancing Market Volume is structured as follows:

- **Section 3** provides information relating to the treatment of time in the Balancing Market Interface.

- **Section 4** provides information relating to the submission and querying of Registration Data by Participants (via the I-SEM Registration System) in relation to the following entities:
  o User;
  o Party;
  o Participant;
  o Unit; and
  o Trading Site.

- **Section 5** provides information relating to the submission and querying of Balancing Market trading data by Participants via the Balancing Market Trading Interface, in relation to the following:
  o Commercial Offer Data, including the use of Default Data and the submission of "Simple Commercial Offer Data" and "Complex Commercial Offer Data";
  o Technical Offer Data, including submission of VTOD (Validation Technical Offer Data) sets and selection of VTOD sets;
  o Settlement Reallocation Agreements;
  o Forecast Availability; and
  o Physical Notifications.

- **Section 6** provides information relating to the content, publication timing and granularity of reports provided via the Balancing Market Trading Interface as:
  o Member Private (i.e. provided to a single Participant in respect of its registrations or trading activities); and
  o Member Public (i.e. provided to all Participants).

- **Section 7** is an Appendix providing information on freetext characters used within the I-SEM Registration System.

3   TREATMENT OF TIME IN THE I-SEM SYSTEMS

3.1   TRADING PERIODS

Time[2] handling in the original SEM was handled by end of hour notation where the specific Trading Period was identified by a combination of Trading Day, Hour in Day and Trade Interval attributes. This approach will not be carried forward into the I-SEM, primarily as this approach is not suitable for a market which includes numerous different time intervals (e.g. minute-by-minute Physical Notifications, 5 minute Imbalance Pricing Period, 30 minute Imbalance Settlement Period and 1 hour Day Ahead Market trading intervals).

In the I-SEM, all interval data will be handled via Start_Time and End_Time attributes. These attributes will be in date/time format and will be validated as follows:
- The Start Time attribute must denote the beginning of a Trading Period.
- The End Time attribute must denote the (inclusive) end of a Trading Period.

For example, a single Trading Period starting at 06:00am would be denoted by Start and End Times, as follows:
- Start Time   '2016-10-31T06:00:00'
- End Time   '2016-10-31T06:30:00'

3.2   TIME REPRESENTATION

The following sections identify the time representations for both Type 2 and Type 3.

3.2.1   TYPE 3 - UTC TIME

All data submitted to the MMS via Type 3 submission will be in *Coordinated Universal Time (UTC)*. All data outputs provided via Type 3 will be in UTC Time.

3.2.2   TYPE 2 - LOCAL TIME

All data captured via Type 2 (e.g. via the Graphical User Interface, GUI) will be in "local time" (i.e. adjusted for daylight savings). The Balancing Market Systems will convert times submitted via Type 2 to UTC as required. All data presented via the Graphical User Interface (GUI), including reports, will be represented in "local time". Download of reports from the GUI will be as follows:

Type of Report	Time Representation
HTML	Local time
CSV	Local time
PDF	Local time
XML	UTC

Table 2: Type 2 Report Type, Time Representation

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[2] Local time convention in the I-SEM will (as currently in the SEM) refer to the time in Belfast.

4   BALANCING MARKET REGISTRATION

This section provides information regarding the registration process and the necessary information in order to interacting with the I-SEM Registration System.

4.1   SCOPE OF I-SEM REGISTRATION SYSTEM

The I-SEM Registration System manages registrations for the following markets:

- Balancing Market;
- Capacity Market;
- Day Ahead Market (for the EirGrid/SONI SEMOpx only); and
- Intra-Day Market (for the EirGrid/SONI SEMOpx only).

The I-SEM Registration System does not include any functionality in relation to registration activities for any forward market or Financial Transmission Rights (FTR) market.

4.2   GAINING ACCESS TO THE I-SEM SYSTEMS.

Prior to using the I-SEM Market Systems to perform registration activities, applicants must register as a Party. In order to be registered as a Party, an applicant must access the registration form from the SEM website.

Once the application has been reviewed and approved by the Market Operator, the applicant is registered as a Party and provided access to the Balancing Market Interface (currently known as the MPI, including the I-SEM Registration System), comprising issuance of credentials (in the form of a Digital Certificate) to a designated Party Administration User (PAU). The PAU will then have access to create other authorised users, who are set out further in Section 4.4.1 of this document. Digital Certificates are provided to Authorised Users, allowing such Users to access the Balancing Market Interface on behalf of Participants registered under the relevant Party for which they have been granted access (see Technical Volume for details). Party Administration Users enable the Party to self-manage its user access and authorisations to the I-SEM Registration System, from which other registrations (e.g. Participant or Unit) can be initiated.

Once an applicant is successfully registered as a Party, a Registration User (acting on behalf of the Party) can register Units which enable trading in the I-SEM markets.

4.3   TYPE 2 AND TYPE 3 QUERY & SUBMISSION

Section 4.3 primarily relates to interactions with the I-SEM Registration System via Type 2 (human-to-computer) or Type 3 (computer–to-computer) communications[3]. Each transaction with the I-SEM Registration System is categorised as a "submit" (submission of new registration data or update to existing registration data) or "query" (viewing or download of registration data held within the I-SEM Registration System).

Table 3 below shows the data (element groups and sub-groups) that can be submitted via the I-SEM Registration System, along with the methods (Type 2/3) that are relevant to "submit" and "query" transactions.

Interface	Element Group	Element Sub-Group	Type 2	Type 3
I-SEM Registration	Participant	General	Submit, Query	Submit, Query

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[3] Note: Type 3 interaction with the I-SEM Registration System will not be available for I-SEM Go-Live.

System		Validity	Submit, Query	Submit, Query
		Balancing Market data	Submit, Query	Submit, Query
		Capacity Market data	Submit, Query	Submit, Query
		NEMO data	Submit, Query	Submit, Query
		Bank Data	Submit, Query	Submit, Query
	User	General	Submit, Query	Submit, Query
		System Access	Submit, Query	Submit, Query
		Key Contacts	Submit, Query	Submit, Query
		Authorisations	Submit, Query	Submit, Query
		Notifications	Submit, Query	Submit, Query
	Trading Site	n/a	Submit, Query	Submit, Query
	Resource	General	Submit, Query	Submit, Query
		Validity	Submit, Query	Submit, Query
		Balancing Market Data	Submit, Query	Submit, Query
		Capacity Market data	Submit, Query	Submit, Query
		NEMO data	Submit, Query	Submit, Query
		Agent of Last Resort data	Submit, Query	Submit, Query

Table 3: Type 2/3 Submission and Query

Note: While it is possible to submit (new or amended) Registration data as described in the following sections, Participants must ensure they follow the correct business process. The relevant business processes to approve submitted registration data will be set out in the relevant market rules.

As set out in *Figure 1* below, registration data that is submitted by Participants is initially set to a status of "Submitted" once successfully submitted to and validated by the I-SEM Registration System. The data is validated upon submission and is set to a status of 'Received' if it passes initial Market Operator validations. Only approved data can be active in terms of market participation.
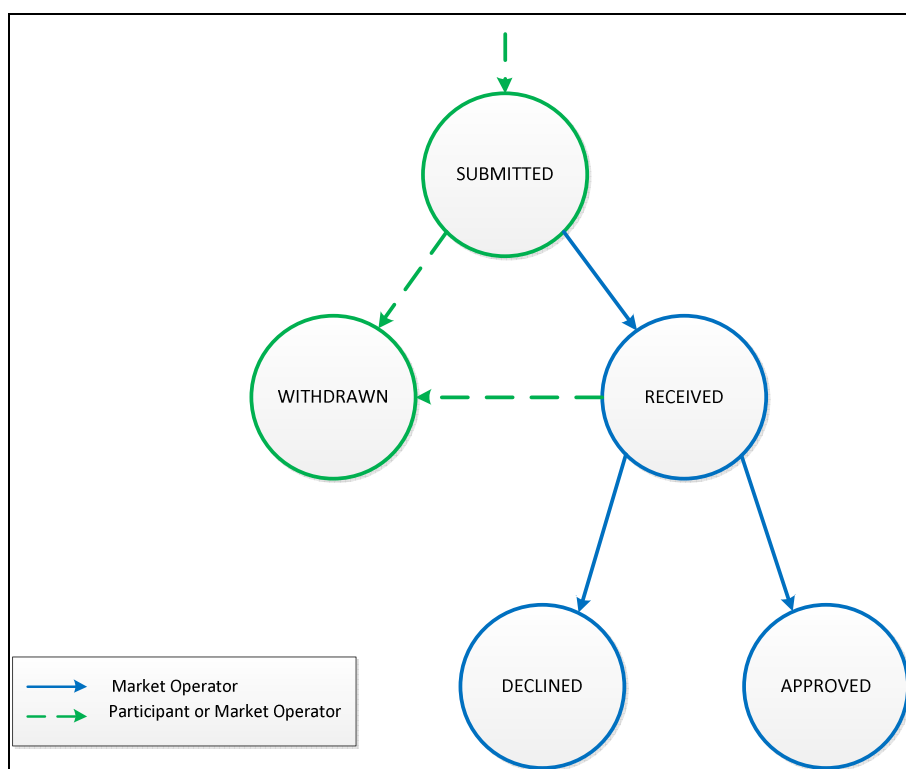
Figure 1: Registration Data, Application Status

Once a registration application is successfully received by the Market Operator, the status may be updated by the Market Operator to:

- 'Approved', i.e. the registration application is approved by the Market Operator, once accepted by all relevant reviewers (e.g. Market Operator, Transmission System Operator, Meter Data Provider);
- 'Declined', i.e. the registration application is denied; or

- 'Withdrawn', i.e. the registration application has been withdrawn (either by the applicant directly or is deemed withdrawn per the market rules).

4.3.1 TYPE 2 QUERY & SUBMISSION VIA THE I-SEM REGISTRATION SYSTEM

(Note: Type 3 interaction with the I-SEM Registration System will not be available for I-SEM Go-Live).

Type 2 submissions of registration data relate to "human-to-computer" interaction via the I-SEM Registration System. *Figure 2* below provides an overview of the steps required to submit registration data via Type 2.
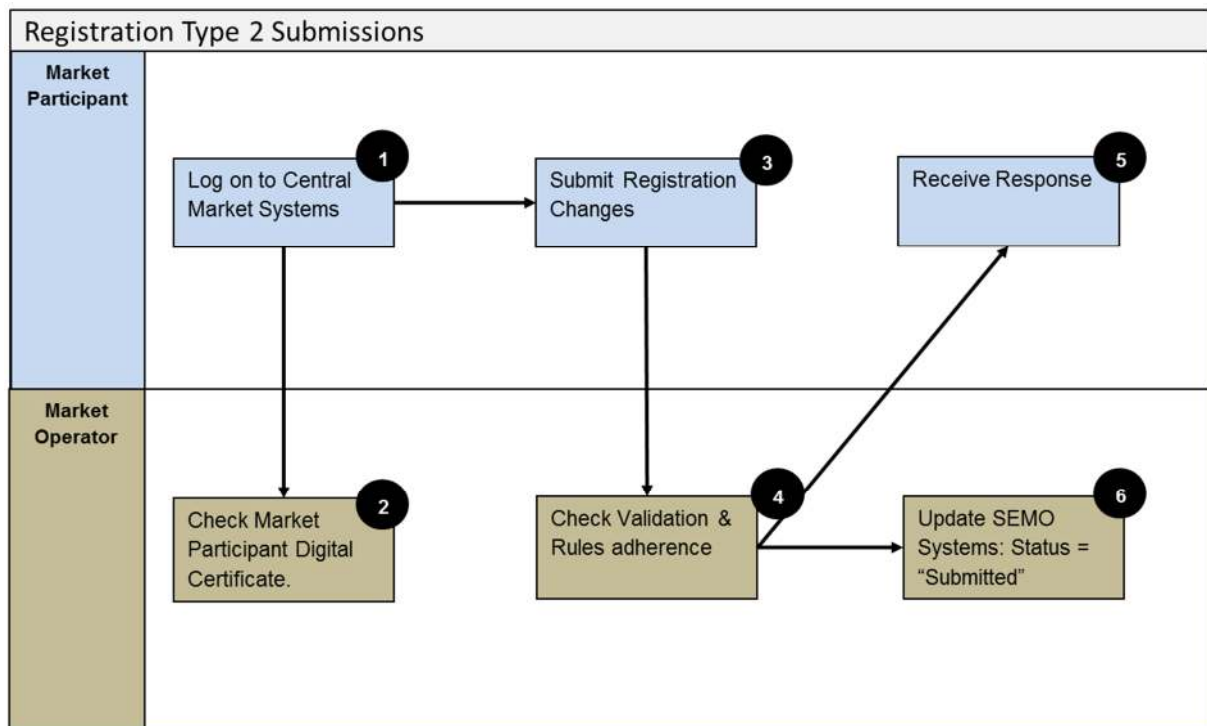
Figure 2: Registration Type 2 flow

Step 1: Participants log on to the I-SEM Registration System, using the Digital Certificate and application password as supplied to them by SEMO.

Step 2: The I-SEM Registration System verifies that the Digital Certificate and application password is correct and logs the Participant into the system.

Step 3: The Participant can view and edit their registration details. They must click on the 'Submit' button to submit changes to their registration details.

Step 4: The I-SEM Registration System ensures that the changes made are valid and adhere to the market rules (i.e. passed validations).

Step 5: The Participant receives a response from the I-SEM Registration System which indicates if the change has successfully submitted to the system or not.

Step 6: If the change has been successful, then the I-SEM Registration System updates the record to a status of 'Submitted'.

For registration data queries, steps 1 and 2 apply. Once a connection to the I-SEM Registration System is established, Participants can query any registration data by selecting the relevant

element group and/or sub-group (e.g. selecting the "Trading Site" element group will initiate a query of the data attributes relating to the Trading Site). Once an element group is selected, the relevant registration data for that element group is shown.

4.3.2 TYPE 3 QUERY & SUBMISSION VIA THE I-SEM REGISTRATION SYSTEM

(Note: Type 3 interaction with the I-SEM Registration System will not be available for I-SEM Go-Live).

Figure 3 provides a summary of how Participants may use Type 3 communication (i.e. computer-to-computer) to submit and query certain data via the I-SEM Registration System.
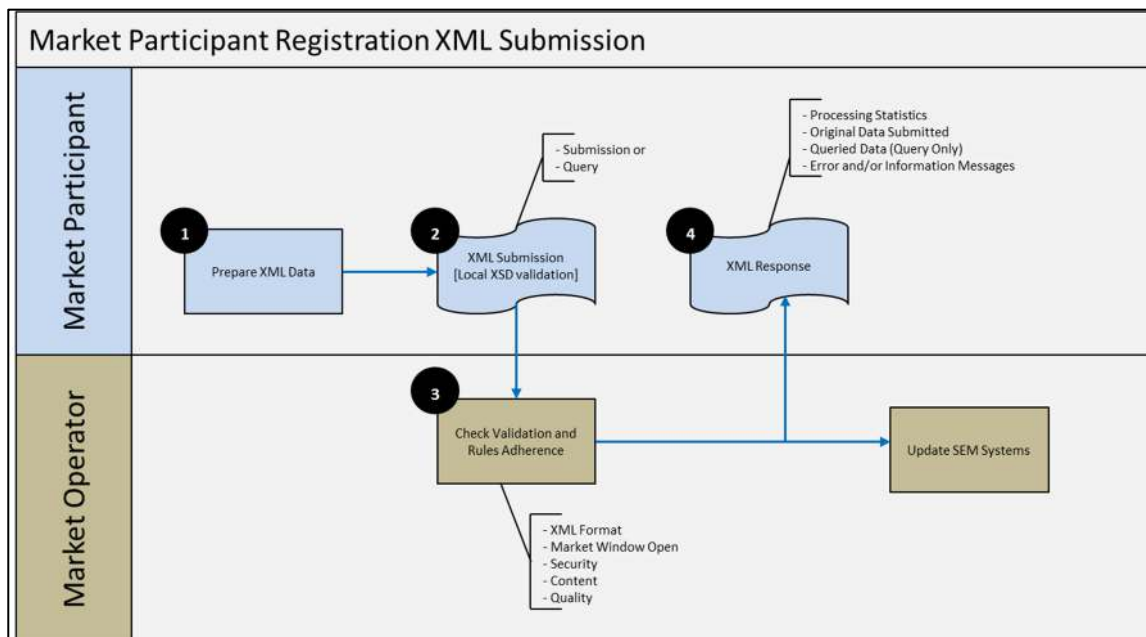
Figure 3: Registration Type 3 flow

Step 1: Participants prepare the XML Data. (Details on how this needs to be packaged, in terms of SOAP, WSDL, etc. are covered in the I-SEM Technical Specification, Volume B).

Step 2: Submissions or queries will be validated on the client (Participant) system to ensure compliance with the XML Schema rules, prior to submission.

Step 3: Once submitted, the Transaction is received by the I-SEM Registration System Interface and further validation checks, including business rules, are applied (see validations and sample XML for each transaction throughout this volume).

Step 4: If the Step 3 validations are successful, the Balancing Market Trading Interface accepts the submission as appropriate, and an XML response is issued to the Participant

- o For submissions, if the Stage 3 validations are passed, the I-SEM Registration System is updated as appropriate (with a status of 'Submitted' for the submission) and an XML response is issued to the Participant. If the validations are unsuccessful, a response is issued detailing the error(s).
- o For queries, if the Stage 3 tests are passed, the latest data set that qualifies for the range of Participant-supplied dates will be returned to the Participant User. This will include the Status associated with the relevant data.

4.4 USER ACCESS MANAGEMENT

Section 4.4 of this document sets out the User Access roles and System Access types that are administered through the I-SEM Registration System by the Party Administrative User, on behalf of that registered Party.

*Note: The **I-SEM Technical Specification Volume B** describes in more detail how the digital certificates and user application passwords are managed. Security aspects is not covered in Volume C.*

4.4.1   USER ACCESS ROLES

There are three types of users that can be created within the I-SEM Registration System, enabling users to access to the Balancing Market Interface. Each role is unique, allowing the user type specific access rights within the Balancing Market Interface (I-SEM Registration System and Balancing Market Trading Interface). These roles are summarised below and in Table 4:

- **Party Administrative User (PAU):** A user has to be a PAU to be able to create and/or modify other Users under the Party under which the PAU is registered.

- **Registration User (RU):** A user has to be a RU to be able to create, modify or view Participant and other related entities for all Participants under the relevant Party for which they are registered e.g. Resources, Bank Account, Trading Site, etc..

- **Other Subsystem User (OSU):** A User that is not set up as a PAU or a RU, but has System Access is called an Other System User. This user type is to permit access a number of sub-functions within the Balancing Market Trading Interface (e.g. Balancing Trading Balancing and Capacity Market Settlement etc). The OSU access is allocated at a Participant level, allowing the PAU to restrict access to an OSU on a jurisdictional basis, if required. Further information on system access is detailed in Section 4.6.7.

User Role	Create/Amend New Users[4]	Submit/Query Registration[5]	Other System Access
PAU	Y	N	N
RU	N	Y	N
OSU	N	N	Y

Table 4: User Access Roles

A User can be any combination of the above user types. A user with complete rights who can create new users, update/query registration data and access the Balancing Market Trading Interface must be set as a PAU, a RU and an OSU. A user can also have their role privileges updated at any time to a PAU, RU or OSU, only by submission by an approved PAU.

Authentication information is entered by the PAU and may subsequently updated by the user thereafter.

4.4.2   SYSTEM ACCESS

System access is managed by the Party Administrative User and is allocated to each user at a Participant level. Users can be given "Read", "Write" or "No Access" to a number of subfunctions of the Balancing Market Interface, identified below;

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[4] RU and OSU can view their own User information.
[5] OSU & RU can only view Party information. Only a PAU or an RU can amend Party information.

- CRM_TRADER
- BAL_TRADER
- BAL_CRM_SETTLEMENT
- BAL_CRM_OTHER
- NEMO_AUCTION_TRADER
- NEMO_CONTINUOUS_TRADER

Table 5 offers an example of how each Access Type is applied in the context of a user with different access permissions to the Balancing Trader subfunction.

Access Type	Access Type Description
Read	If given "READ" access to "BAL_TRADER" subsystem for a Participant (PT_500900), the user will be able to retrieve their Balancing Market data.
Write	If given "WRITE" access to "BAL_TRADER" subsystem for a Participant (PT_500900), the user will be able to retrieve, add and modify their Balancing Market data.
No Access	If given "NO ACCESS" to "BAL_TRADER" subsystem for a Participant (PT_500900), the user will not be able to retrieve, add or modify their Balancing Market data.

Table 5: Access Type

Note: SEMOpx trading and Capacity Market trading access permissions will be captured within the System Access function within the I-SEM Registration System. However, trading for these markets will not be carried out through the Balancing Market Trading Interface. Information related to trading in the Ex-Ante and Capacity markets are set Volume D and Volume E respectively.

4.5 BALANCING MARKET REGISTRATION - QUERIES

This section provides the methods, elements and validations necessary for registration query.

4.5.1 REGISTRATION QUERY – METHODS & VALIDATIONS FOR COMMON ATTRIBUTES

Interface Name	I-SEM Reference	Methods	Interface Type	Submitted By
Registration – Query	INT-01	QUERY, SUBMIT	XML Type 2 & 3	Participants

Table 6: Registration Query Methods

4.5.2 REGISTRATION QUERY - ELEMENTS & VALIDATIONS

Name	Validation	Mandatory /Optional
PartyName	Must be a STRING Must be valid in combination with USER_NAME Must have system privileges to allow Registration access	Mandatory
Action	The default value of this attribute is "NORMAL" and need not to be submitted	Optional
Date	YYYY-MM-DD This attribute should be the relevant Trade Date. If specified, all records with specified date between StartDate and EndDate are retrieved	Optional
DateType	The default value of this attribute is "TRADE" and need not be submitted	Optional
RecordStatus	If specified, all records with specified status are retrieved	Optional

Table 7: Registration Query, elements and validations

4.6 VALIDATION AND XML DATASET EXAMPLES

The table below provides a description of the XML Dataset examples within this section.

Dataset name	Description
Participant	Submit, approval and query of Participant general information
Participant Validity	Submit, approval, and query of Participant Status

Dataset name	Description
Participant: Balancing Market data	Submit, approval, and query of Balancing Market data relating to a Participant
Participant: Capacity Market data	Submit, approval, and query of Market data relating to a Participant
Participant: NEMO data	Submit, approval and query of NEMO(SEMOpx) data relating to a Participant
User	Submit, approval, and query of general details relating to a user
User: system access	Submit & query of system access relating to a user
User: key contacts	Submit & query of key contacts relating to a user
User: authorisation	Submit & query of authorisations relating to a user
User: notifications	Submit & query of notifications relating to a user
Bank data	Submit, approval, and query of banking details relating to a Participant
Trading Site	Submit, approval and query of Trading Site details relating to a Participant.
Resource	Submit, approval and query of Resource general information
Resource Validity	Submit, approval and query o Resource Status
Resource: Balancing Market Data	Submit, approval, and query of Balancing Market data relating to a Resource
Resource: Capacity Market data	Submit, approval, and query of Capacity Market data relating to a Resource
Resource: NEMO data	Submit, approval and query of NEMO(SEMOpx) data relating to a Resource
Resource: Agent of Last Resort data	Submit, approval and query of Agent of Last Resort data relating to a Resource

Table 8: XML Datasets

Note: The same resource (Unit) identifier will be used for all market types, where applicable. However, there is provision for resources to be represented differently in each market. Further detail on resource types will be included within the relevant market codes and agreed procedures.

4.6.1 PARTICIPANT

The following table describes the field descriptions and validations for submitting a request to register a Participant and modifying existing Participant data.

4.6.1.1 PARTICIPANT GENERAL INFORMATION – DATA ELEMENTS AND VALIDATIONS

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/> This field is non-editable and generated by the system upon initial submission based on the Participant Class and Jurisdiction.	n/a
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Participant Class	VARCHAR2 (2)	Must be a valid participant class and set to TRADING_PARTICIPANT (TP).	Mandatory
Company Name	VARCHAR2 (60)	String Type[6]	Mandatory
Place of Establishment	VARCHAR2 (20)	String Type	Mandatory
VAT Region	VARCHAR2 (6)	Valid values: • EU • NON_EU	Mandatory
VAT Registration Number	VARCHAR2 (32)	String Type	Mandatory
EIC Code	VARCHAR2 (16)	String Type	Optional
ACER Code	VARCHAR2 (12)	String Type	Optional
Jurisdiction	VARCHAR2 (6)	Valid values: • NI • ROI • OTHER	Mandatory
Vat Status	VARCHAR2 (6)	Valid values:	Optional

---

[6] Any field marked as "String Type" may use the full list of characters identified in Appendix A of this document, unless the character restriction is otherwise specified.

Name	Data Type	Validation	Mandatory/Optional
		• EXEMPT • NON_EXEMPT	
Remit Reporting	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Optional
Open Cash Collateral Account	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Optional
Cash Collateral Account Status	VARCHAR2 (2)	Valid values: • COMPLETE (C) • INCOMPLETE (I) • NA This field is entered by the Market Operator only.	Optional
Application reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Company Address Information			
Care of	VARCHAR2 (50)	String Type	Optional
Address Line 1	VARCHAR2 (128)	String Type	Mandatory
Address Line 2	VARCHAR2 (128)	String Type	Optional
Address Line 3	VARCHAR2 (128)	String Type	Optional
City	VARCHAR2 (20)	String Type	Mandatory
County	VARCHAR2 (20)	String Type	Mandatory
Postal Code	VARCHAR2 (15)	String Type	Mandatory
Country	VARCHAR2 (32)	String Type	Mandatory
Billing Address Information			
Billing Address is same as Company Address	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Optional
Care of	VARCHAR2 (50)	String Type	Optional
Address Line 1	VARCHAR2 (128)	String Type	Mandatory
Address Line 2	VARCHAR2 (128)	String Type	Optional
Address Line 3	VARCHAR2 (128)	String Type	Optional
City	VARCHAR2 (20)	String Type	Mandatory
County	VARCHAR2 (20)	String Type	Mandatory
Postal Code	VARCHAR2 (15)	String Type	Mandatory
Country	VARCHAR2 (32)	String Type	Mandatory
Comments			
Text box	VARCHAR2 (256)	String Type	Optional

Table 9: Participant: General - Data Elements & Validations

4.6.1.2 PARTICIPANT GENERAL– SAMPLE XML

The figures below are sample XMLs relating to the approval and querying of Participant general information.

4.6.2   PARTICIPANT VALIDITY

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Participant Validity and sample XMLs for reference.

4.6.2.1   PARTICIPANT VALIDITY – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations for Participant Validity. This can be used to query the status of the Participant or Party. There are three possible states: "Registered", "Deregistered", and "Suspended".

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Participant State	VARCHAR(1)	Set to REGISTERED (R) upon approval by the Market Operator.	Mandatory
Application reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Comments			
Text box	VARCHAR2 (256)	String Type	Optional

Table 10: Participant Validity - Data Elements and Validations

4.6.2.2   PARTICIPANT VALIDITY – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Participant Validity.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
   <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
   <ParticipantValidity RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999"
     ParticipantState="DEREGISTERED" EndDate="2016-12-31" StartDate="2016-01-01" ParticipantName="PT_NAME">
        <!-- ParticipantName, StartDate: Mandatory attributes. EndDate: This attribute will be returned as part of query-response. It should not be
        included during submission. For latest approved record it is always null, for previously approved records it is system generated.
        ParticipantState: Mandatory attribute and valid values are: ACTIVATED/SUSPENDED/DEREGISTERED ApplicationReference, TransactionId:
        These attributes will be returned as part of the response to the query. These are generated by the system at the time of submission.
        RecordStatus: The default value of this attribute is "SUBMITTED" and need not be submitted. -->
        <Comments>Optional Comments, if any</Comments>
   </ParticipantValidity>
   </RegistrationSubmit>
</RegistrationData>
```

Figure 7: Participant Validity (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
   <ParticipantValidity Action="APPROVED" TransactionId="99999" ParticipantName="PT_NAME">
        <!-- All attributes are mandatory -->
        <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
        <Comments>Additional comments, if any.</Comments>
   </ParticipantValidity>
   </RegistrationApproval>
</RegistrationData>
```

Figure 8: Participant Validity (Approval)

```
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
  - <RegistrationQuery PartyName="PY_NAME" Action="NORMAL" RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of this attribute is "NORMAL" and need
        not be submitted. Date: This attribute should be the relevant Trade Date. If specified, then all the records with specified date between StartDate and
        EndDate are retrieved. DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records
        with specified Status are retrieved. -->
        <!-- This element is mandatory -->
        <ParticipantValidity ParticipantName="PT_NAME"/>
        <!-- ParticipantName: If specified, then all the records with specified Participant Name are retrieved. -->
   </RegistrationQuery>
</RegistrationData>
```

Figure 9: Participant Validity (Query)

4.6.3   PARTICIPANT: BALANCING MARKET DATA

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Participant Balancing Market data and sample XMLs for reference.

4.6.3.1   PARTICIPANT: BALANCING MARKET DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for activating a Participant in the Balancing Market.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Application reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Comments			
Text box	VARCHAR2 (256)	String Type	Optional

Table 11: Participant Balancing Market - Data Elements & Validations

4.6.3.2   PARTICIPANT: BALANCING MARKET DATA: SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Participant Balancing Market data.

```
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
  - <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
    - <ParticipantBalancing RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" EndDate="2016-12-31"
        StartDate="2016-01-01" ParticipantName="PT_NAME">
        <!-- ParticipantName, StartDate: Mandatory attributes. EndDate: Optional attribute. In case user does not submit it, default is null, and, it
        will be system generated when it is superseded by next approved record, and will be returned as part of query-response.
        ApplicationReference, TransactionId: These attributes will be returned as part of the response to the query. These are generated by the
        system at the time of submission. RecordStatus: The default value of this attribute is "SUBMITTED" and need not be submitted. -->
        <Comments>Optional Comments, if any</Comments>
      </ParticipantBalancing>
    </RegistrationSubmit>
</RegistrationData>
```

Figure 10: Participant: Balancing Market (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <ParticipantBalancing Action="APPROVED" TransactionId="99999" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </ParticipantBalancing>
    </RegistrationApproval>
</RegistrationData>
```

Figure 11: Participant: Balancing Market (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
            <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
            value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
            Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
            DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
            then all the records with specified Status are retrieved. -->
            <!-- This element is mandatory -->
        <ParticipantBalancing ParticipantName="PT_NAME"/>
            <!-- ParticipantName: If specified, then all the records with specified Participant Name are retrieved. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 12: Participant: Balancing Market (Query)

4.6.4 PARTICIPANT: CAPACITY MARKET DATA

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Participant Capacity Market data and sample XMLs for reference.

4.6.4.1 PARTICIPANT: CAPACITY MARKET DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for making a Participant active in the Capacity Market.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Application reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Attachments			
PT CRM Additional document	Attachment	If submitted then up to 5 attachments allowed for this type.	Optional
Comments			
Text box	VARCHAR2 (256)	String Type	Optional

Table 12: Participant Capacity Market - Data Elements & Validations

4.6.4.2 PARTICIPANT: CAPACITY MARKET DATA – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Participant Capacity Market data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
        <ParticipantCrm RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" EndDate="2016-12-31"
            StartDate="2016-01-01" ParticipantName="PT_NAME">
            <!-- ParticipantName, StartDate: Mandatory attributes. EndDate: Optional attribute. In case user does not submit it, default is null, and, it
            will be system generated when it is superseded by next approved record, and will be returned as part of query-response.
            ApplicationReference, TransactionId: These attributes will be returned as part of the response to the query. These are generated by the
            system at the time of submission. RecordStatus: The default value of this attribute is "SUBMITTED" and need not be submitted. -->
            <Comments>Optional Comments, if any</Comments>
        </ParticipantCrm>
    </RegistrationSubmit>
</RegistrationData>
```

Figure 13: Participant: Capacity Market (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <ParticipantCrm Action="APPROVED" TransactionId="99999" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </ParticipantCrm>
    </RegistrationApproval>
</RegistrationData>
```

Figure 14: Participant: Capacity Market (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
        value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
        Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
        DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
        then all the records with specified Status are retrieved. -->
        <!-- This element is mandatory -->
        <ParticipantCrm ParticipantName="PT_NAME"/>
        <!-- ParticipantName: If specified, then all the records with specified Participant Name are retrieved. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 15: Participant: Capacity Market (Query)

4.6.5 PARTICIPANT: EIRGRID/SONI SEMOPX DATA

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Participant SEMOpx (Ex-Ante) data and sample XMLs for reference.

4.6.5.1 PARTICIPANT: SEMOPX DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for activating a Participant to trade in the SEMOpx (Ex-Ante) markets.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory

End Date	Date	If submitted, must be YYYY-MM-DD	Optional
DAM IDM Auctions Market	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Mandatory
IDM Continuous Market	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Mandatory
Direct Clearing	CHAR(1)	Must be true or false. ('T' or 'F') Default is false = 'F'	Mandatory
Clearing Member	VARCHAR2 (32)	String Type	Mandatory
Associated Exchange Member ID	VARCHAR2 (32)	String Type	Mandatory
Hardcopy Forms Posted	VARCHAR(2)	Valid values: • Y • N • NA	Mandatory
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
System Information (Can only be entered by the MO)			
Trading System Member ID	VARCHAR2 (16)	String Type	Optional
Clearing System ID	VARCHAR2 (5)	String Type	Mandatory
System Login IDs Auctions	VARCHAR2 (72)	String Type	Optional
System Login ID Continuous	VARCHAR2 (72)	String Type	Optional
Attachments			
PT NEMO Trading Forms	Attachment	If submitted then only 1 attachment allowed for this type.	Optional
PT NEMO Clearing Forms	Attachment	If submitted then only 1 attachment allowed for this type.	Optional
PT NEMO Direct Clearing Forms	Attachment	If submitted then only 1 attachment allowed for this type.	Optional
PT NEMO Additional Documents	Attachment	If submitted then only 1 attachment allowed for this type.	Optional
Comments			
Text box	VARCHAR2 (256)	String Type	Optional

Table 13: Participant SEMOpx - Data Elements & Validations

4.6.5.2 PARTICIPANT: SEMOPX DATA – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Participant SEMOPX data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
  - <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
    - <ParticipantNemo RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" HardcopyFormsPosted="YES"
      AssociatedExchangeMemberId="AssExchMemberId" ClearingMember="Name of Clearing Member" DirectClearing="true"
      IdmContinuousMarket="false" DamIdmAuctionsMarket="false" EndDate="2016-12-31" StartDate="2016-01-01"
      ParticipantName="PT_NAME">
        <!-- ParticipantName, StartDate, AssociatedExchangeMemberId: Mandatory attributes. EndDate: Optional attribute. In case user does not
        submit it, default is null, and, it will be system generated when it is superseded by next approved record, and will be returned as part of
        query-response. DirectClearing,DamIdmAuctionsMarket, IdmContinuousMarket: The default value of this attribute is "false" and need not
        be submitted. ClearingMember: Mandatory, and applicable for trading participants participating in Nemo market and for whom
        DirectClearing is Unchecked. HardcopyFormsPosted: Mandatory, allowed values are: YES,NO,NA. ApplicationReference, TransactionId:
        These attributes will be returned as part of the response to the query. These are generated by the system at the time of submission.
        RecordStatus: The default value of this attribute is "SUBMITTED" and need not be submitted. -->
        <!-- Optional Element -->
      <NemoSystemInfo SystemLoginIdContinuous="10" SystemLoginIdAuctions="50" TradingSystemMemberId="tradingsys_m_id"
        ClearingSystemId="Id"/>
        <!-- ClearingSystemId: Mandatory attribute. TradingSystemMemberId, SystemLoginIdAuctions, SystemLoginIdContinuous: Optional
        attributes. -->
      <Comments>Optional Comments, if any</Comments>
    </ParticipantNemo>
  </RegistrationSubmit>
</RegistrationData>
```

Figure 16 Participant SEMOPX (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <ParticipantNemo Action="APPROVED" TransactionId="99999" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </ParticipantNemo>
    </RegistrationApproval>
</RegistrationData>
```

Figure 17 Participant SEMOPX (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of
        this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade Date. If
        specified, then all the records with specified date between StartDate and EndDate are retrieved. DateType: The
        default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records
        with specified Status are retrieved. -->
        <!-- This element is mandatory -->
        <ParticipantNemo ParticipantName="PT_NAME"/>
        <!-- ParticipantName: If specified, then all the records with specified Participant Name are retrieved. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 18 Participant SEMOPX (Query)

4.6.6 USER

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for User general data and sample XMLs for reference.

4.6.6.1 USER: GENERAL INFORMATION – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations for registering new User information and modifying existing User data.

Name	Data Type	Validation	Mandatory/Optional
General Information			
User Name	VARCHAR2 (16)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Party Administrative User	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Optional
Registration User	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Optional
Surname	VARCHAR2 (20)	String Type	Mandatory
Given Name	VARCHAR2 (20)	String Type	Mandatory
Position	VARCHAR2(50)	String Type	Mandatory
Email	VARCHAR2 (50)	String Type	Mandatory
Phone	VARCHAR2 (20)	String Type	Mandatory

Mobile	VARCHAR2 (20)	String Type	Optional
Fax	VARCHAR2 (20)	String Type	Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Authentication Information			
Authentication Code	VARCHAR2 (8)	String "[a-zA-Z_0-9\-]*"/> Must be of pattern: alphanumeric and at least 1 uppercase, 1 lowercase and 1 numeric characters must be present.	Mandatory
Confidential Question 1 – Date of Birth	Date	Must be YYYY-MM-DD	Mandatory
Confidential Question 2 – Place of Birth	VARCHAR2 (20)	String Type	Mandatory
Confidential Question 3 – Last Secondary School	VARCHAR2 (50)	String Type	Mandatory
Confidential Question 4 – Mother's Maiden Name	VARCHAR2 (50)	String Type	Mandatory
Address Information			
Care of	VARCHAR2 (50)	String Type	Optional
Address Line 1	VARCHAR2 (128)	String Type	Mandatory
Address Line 2	VARCHAR2 (128)	VARCHAR2 (128) String Type	Optional
Address Line 3	VARCHAR2 (128)	VARCHAR2 (128) String Type	Optional
City	VARCHAR2 (20)	String Type	Mandatory
County	VARCHAR2 (20)	String Type	Mandatory
Postal Code	VARCHAR2 (15)	String Type	Mandatory
Country	VARCHAR2 (32)	String Type	Mandatory
Comments			
Text box	VARCHAR2 (256)	String Type	Optional

Table 14: User General - Data Elements & Validations

4.6.6.2 USER: GENERAL INFORMATION – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of User general information.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
        <User TransactionId="99999" ApplicationReference="ISEM99999" Fax="123456781" Mobile="12345679" Phone="12345678"
            Email="Email" Position="Position" GivenName="Orson" Surname="Welles" RegistrationUser="false" AdministrativeUser="true"
            EndDate="2016-12-31" StartDate="2016-01-01" UserName="USER_NAME">
            <!-- UserName, StartDate, Surname, GivenName, Position, Email, Phone: Mandatory attributes EndDate: This attribute will be returned as
            part of query-response. It should not be included during submission. For latest record it is always null, for previous records it is system
            generated Mobile, Fax: Optional attributes ApplicationReference, TransactionId: These attributes will be returned as part of the response to
            the query. These are generated by the system at the time of submission. AdministrativeUser, RegistrationUser: Boolean type attributes,
            default set to false. Can be updated by PAU or MO. -->
            <!-- This element is mandatory -->
            <Address Country="ROI" PostalCode="99999" County="County Name" City="City Name" AddressLine3="Line 3" AddressLine2="Line 2"
                AddressLine1="Line 1" CareOf="Care of Name" AddressCategory="MAILING"/>
                <!-- AddressCategory: This attribute is mandatory and must be set to MAILING AddressLine1, City, County, PostalCode, Country:
                Mandatory attributes CareOf, AddressLine2, AddressLine3: Optional attributes -->
                <!-- This element is optional -->
            <Authentication MotherMaidenName="Mother Maiden Name" LastSecondarySchool="Last Secondary School" PlaceOfBirth="Place of
                Birth" DateOfBirth="1990-01-01" AuthenticationCode="Auth Code"/>
            <Comments>Optional Comments, if any</Comments>
        </User>
    </RegistrationSubmit>
</RegistrationData>
```

Figure 19: User (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <User Action="APPROVED" TransactionId="99999" UserName="USER_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </User>
    </RegistrationApproval>
</RegistrationData>
```

Figure 20: User (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
        value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
        Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
        DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
        then all the records with specified Status are retrieved. -->
        <!-- This element is mandatory -->
        <User RegistrationUser="true" PartyAdministrativeUser="true" UserName="USER_NAME"/>
            <!-- UserName, PartyAdministrativeUser, RegistrationUser: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 21: User (Query)

4.6.7   USER: SYSTEM ACCESS

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for User System Access data and sample XMLs for reference.

4.6.7.1   USER: SYSTEM ACCESS – DATA ELEMENTS AND VALIDATIONS

The table below describes the field descriptions and validations for setting up or modifying system access for Users.

Name	Data Type	Validation	Mandatory/Optional
General Information			

Name	Data Type	Validation	Mandatory/Optional
User Name	VARCHAR2 (16)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
System Name	VARCHAR2 (22)	Valid values: • CRM_TRADER • BAL_TRADER • BAL_CRM_SETTLEMENT • BAL_CRM_0THER • NEMO_AUCTION_TRADER • NEMO_CONTINUOUS_TRADER May be more than one system field chosen.	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Access Code	VARCHAR2 (4)	String Type Must be: • READ • WRITE • NO_ACCESS	Mandatory
External User ID	VARCHAR2 (16)	String Type	Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A

Table 15: User System Access - Data Elements & Validations

4.6.7.2 USER: SYSTEM ACCESS – SAMPLE XML

The figures below are sample XMLs relating to the submission and querying of User System Access data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <!-- This element is mandatory -->
  - <RegistrationSubmit PartyName="PY_NAME">
          <!-- PartyName: Mandatory attribute. -->
          <!-- This element is mandatory -->
          <UserSystemAccess TransactionId="9999" ExternalUserId="A00001" AccessCode="READ" EndDate="2016-12-31" StartDate="2016-01-01"
            SystemName="BAL_TRADER" ParticipantName="PT_NAME" UserName="USER_NAME"/>
          <!-- UserName, ParticipantName, StartDate: Mandatory attributes. SystemName: Mandatory attribute. Valid values are: CRM_TRADER,
          BAL_TRADER, BAL_CRM_SETTLEMENT, BAL_CRM_OTHER, NEMO_AUCTION_TRADER, NEMO_CONTINUOUS_TRADER. AccessCode: Mandatory
          attribute. Valid values are: NO_ACCESS, READ, WRITE. EndDate: Optional attribute. In case user does not submit it, default is null, and, it will
          be system generated when it is superseded by next approved record, and will be returned as part of query-response. ExternalUserId: Optional
          attributes. ApplicationReference, TransactionId: These attributes will be returned as part of the response to the query. These are generated by
          the system at the time of submission. -->
    </RegistrationSubmit>
  </RegistrationData>
```

Figure 22: User: System Access (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
          <!-- This element is mandatory -->
  - <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
          <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
          value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
          Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
          DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
          then all the records with specified Status are retrieved. -->
          <!-- This element is mandatory -->
          <UserSystemAccess SystemName="BAL_TRADER" ParticipantName="PT_NAME" UserName="USER_NAME"/>
          <!-- UserName, ParticipantName, SystemName: Optional attributes. -->
    </RegistrationQuery>
  </RegistrationData>
```

Figure 23: User: System Access (Query)

4.6.8 USER: KEY CONTACTS

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for User Key Contacts data and sample XMLs for reference.

4.6.8.1 USER: KEY CONTACTS – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations for registering User Key Contact data and modifying existing User Key Contact data. This function allows the Party Administrative User to nominate specific key contacts pertaining to different markets, or sub functions within those markets (e.g. Balancing Market Trading, Balancing and Capacity Market Settlement).

Name	Data Type	Validation	Mandatory/Optional
User Name	VARCHAR2 (16)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Key ContactType	VARCHAR2 (50)	MAIN_CONTACT REGISTRATION BALANCING_TRADING CAPACITY_TRADING SETTLEMENT PAYMENTS CREDIT_COVER	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Opt out of Standard Notification	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is false = 'F'	Optional

Table 16: User Key Contacts - Data Elements & Validations

4.6.8.2 USER: KEY CONTACTS – SAMPLE XML

The figures below are sample XMLs relating to the submission and querying of User Key Contacts data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
  <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
    <UserKeyContact TransactionId="9999" OptOutStandardNotifications="false" EndDate="2016-12-31" StartDate="2016-01-01"
        KeyContactType="NEMO_TRADING" ParticipantName="PT_NAME" UserName="USER_NAME"/>
        <!-- UserName, ParticipantName, KeyContactType, StartDate: Mandatory attributes EndDate: Optional attribute. In case user does not submit
          it, default is null, and, it will be system generated when it is superseded by next approved record, and will be returned as part of query-
          response. ApplicationReference, TransactionId: Optional attributes OptOutStandardNotifications: boolean type attribute, default set to false -->
  </RegistrationSubmit>
</RegistrationData>
```

Figure 24: User: Key Contacts (Submit)

```
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
  - <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
        value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
        Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
        DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
        then all the records with specified Status are retrieved. -->
        <!-- This element is mandatory -->
      <UserKeyContact KeyContactType="NEMO_TRADING" ParticipantName="PT_NAME"
        UserName="USER_NAME"/>
        <!-- UserName, ParticipantName, KeyContactType: Optional attributes. -->
  </RegistrationQuery>
</RegistrationData>
```

Figure 25: User: Key Contacts (Query)

4.6.9   USER: AUTHORISATION

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for User Authorisation data and sample XMLs for reference.

4.6.9.1   USER: AUTHORISATION – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations for registering Authorised Persons and modifying existing Authorised Person data. This function allows the Party Administrative User to nominate specific Authorised Persons permitted to authorise specific ad hoc offline processes on behalf of the Participant.

Name	Data Type	Validation	Mandatory/Optional
User Name	VARCHAR2 (16)	String restricted to "[A-Z_0-9\-]*"/>	Mandatory
Participant Name	VARCHAR2 (12)	String restricted to "[A-Z_0-9\-]*"/>	Mandatory
Authorisation Type	VARCHAR2 (50)	SUBMIT_SETTLEMENT_QUERY_AND_RAISE_DISPUTE DECLARE_LIMITED_COMMUNICATION_FAILURE REQUEST_COLLATERAL_REFUND	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Secondary Signatory	VARCHAR2 (256)	String Type	Mandatory

Table 17: User Authorisations - Data Elements & Validations

4.6.9.2   USER: AUTHORISATION – SAMPLE XML

The figures below are sample XMLs relating to the submission and querying of User Authorisation data.

```
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
  - <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
      <UserAuthorisation TransactionId="9999" SecondarySignatory="false" EndDate="2016-12-31" StartDate="2016-01-01"
        AuthorisationType="BAL_CRM_REQUEST_COLLATERAL_REFUND" ParticipantName="PT_NAME" UserName="USER_NAME"/>
        <!-- UserName, ParticipantName, AuthorisationType, StartDate: Mandatory attributes EndDate: Optional attribute. In case user does not
        submit it, default is null, and, it will be system generated when it is superseded by next approved record, and will be returned as part of
        query-response. SecondarySignatory: boolean type attribute, default set to false TransactionId: This attribute will be returned as part of the
        response to the query. This is generated by the system at the time of submission. -->
  </RegistrationSubmit>
</RegistrationData>
```

Figure 26: User: Authorisation (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
            <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
            value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
            Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
            DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
            then all the records with specified Status are retrieved. -->
            <!-- This element is mandatory -->
        <UserAuthorisation AuthorisationType="BAL_CRM_REQUEST_COLLATERAL_REFUND"
        ParticipantName="PT_NAME" UserName="USER_NAME"/>
            <!-- UserName, ParticipantName, AuthorisationType: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 27: User: Authorisation (Query)

4.6.10 USER: NOTIFICATIONS

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for User Notification data and sample XMLs for reference.User: Notifications – Data Elements and Validations

4.6.10.1 USER: NOTIFICATIONS – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations for signing Users up to a distribution group to receive communications on specific I-SEM related topics.

Name	Data Type	Validation	Mandatory/Optional
User Name	VARCHAR2 (16)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Notification Type	To be defined at later date	List to be defined at a later date	Mandatory

Table 18: User Notifications - Data Elements & Validations

4.6.10.2 USER: NOTIFICATIONS – SAMPLE XML

The figures below are sample XMLs relating to the submission and querying of User Notifications.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
    <RegistrationSubmit PartyName="PY_NAME">
            <!-- PartyName: Mandatory attribute. -->
            <!-- This element is mandatory -->
        <UserNotification TransactionId="9999" NotificationType="BAL_CRM_CREDIT" UserName="USER_NAME"/>
            <!-- UserName: Mandatory attribute NotificationType: Mandatory attribute. Following are valid values:
            BAL_CRM_SETTLEMENT_AND_INVOICING, BAL_CRM_CREDIT, BAL_SYSTEM_AVAILABILITY, NEMO, AOLR_GENERAL_COMMUNICATIONS
            ApplicationReference, TransactionId: Optional attributes -->
    </RegistrationSubmit>
</RegistrationData>
```

Figure 28: User: Notifications (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
            <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
            value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
            Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
            DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
            then all the records with specified Status are retrieved. -->
            <!-- This element is mandatory -->
        <UserNotification NotificationType="BAL_CRM_CREDIT" UserName="USER_NAME"/>
            <!-- UserName, NotificationType: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 29: User: Notifications (Query)

4.6.11 BANK DATA

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Bank data and sample XMLs for reference.

4.6.11.1 BANK DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for adding or amending the banking details associated with the Participant. It is important that the correct agreed procedures are followed when adding or amending bank data.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Bank Name	VARCHAR2 (50)	String Type	Mandatory
Account Name	VARCHAR2 (30)	String Type	Mandatory
Account Number	VARCHAR2 (30)	String Type	Mandatory
Bank Sort Code	VARCHAR2 (12)	String Type	Mandatory
Swift/BIC	VARCHAR2 (12)	String Type	Mandatory
IBAN	VARCHAR2 (30)	String Type	Mandatory
Payment Reference	VARCHAR2 (32)	String Type	Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Comments			
Text Box	VARCHAR2 (256)	String Type	Optional

Table 19: Bank - Data Elements & Validations

4.6.11.2 BANK DATA – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Bank data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- Mandatory element with EndDate, PaymentReference as optional attributes. -->
        <Bank RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" PaymentReference="PAYMENT_REFERENCE"
        Iban="IBAN" SwiftBic="BIC" BankSortCode="CODE" AccountNumber="ACCOUNT_NUM" AccountName="ACCOUNT_NAME"
        BankName="BANK_NAME" EndDate="2016-08-13" StartDate="2016-08-13" ParticipantName="PT_NAME">
            <!-- ParticipantName, ResourceName, ResourceType, StartDate, BankName, AccountName, AccountNumber, BankSortCode, SwiftBic,
            Iban: Mandatory attributes. PaymentReference: Optional attribute, can be entered only by MO. EndDate: This attribute will be returned as
            part of query-response. It should not be included during submission. For latest approved record it is always null, for previously approved
            records it is system generated. ApplicationReference, TransactionId: These attributes will be returned as part of the response to the query.
            These are generated by the system at the time of submission. RecordStatus: The default value is "SUBMITTED" and need not be
            submitted. -->
            <Comments>Optional Comments, if any</Comments>
        </Bank>
    </RegistrationSubmit>
</RegistrationData>
```

Figure 30: User: Bank (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <Bank Action="APPROVED" TransactionId="99999" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </Bank>
    </RegistrationApproval>
</RegistrationData>
```

Figure 31: User: Bank (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default
        value of this attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade
        Date. If specified, then all the records with specified date between StartDate and EndDate are retrieved.
        DateType: The default value of this attribute is "TRADE" and need not be submitted. RecordStatus: If specified,
        then all the records with specified Status are retrieved. -->
        <!-- This element is mandatory -->
        <Bank ParticipantName="PT_NAME"/>
        <!-- ParticipantName: If specified, then all the records with specified Participant Name are retrieved. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 32: User: Bank (Query)

4.6.12 TRADING SITE

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Bank data and sample XMLs for reference.

4.6.12.1 TRADING SITE – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for adding or amending Trading Site details.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Trading Site Name	VARCHAR2 (12)	This field is non-editable and by the system on initial submission based on the Participant's jurisdiction.	n/a
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Trading Site Long Name	VARCHAR2 (50)	String Type	Mandatory
Firm Access Quantity	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
Maximum Export Capacity	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
Generation Group Name	VARCHAR2 (32)	String Type	Optional
Autoproducer	CHAR(1)	If submitted, must be true or false. ('T' or 'F')	Optional
Associated Supplier Unit	VARCHAR2 (32)	String Type	Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A

Table 20: Trading Site - Data Elements & Validations

4.6.12.2 TRADING SITE – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Trading Site data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
  <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- Mandatory element -->
  <TradingSite RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999"
    AssociatedSupplierUnit="ASSOCIATED_SUPP_UNIT" Autoproducer="true" GenerationGroupName="GENERATION_GROUP"
    MaximumExportCapacity="0" FirmAccessQuantity="0" TradingSiteLongName="Trading site name max 50 char" EndDate="2016-08-13"
    StartDate="2016-08-13" TradingSiteName="TS_NAME" ParticipantName="PT_NAME">
        <!-- ParticipantName, StartDate, TradingSiteLongName : Mandatory attribute. TradingSiteName: Mandatory and system generated upon
        first submission. EndDate: Optional attribute. In case user does not submit it, default is null, and, it will be system generated when it is
        superseded by next approved record, and will be returned as part of query-response. GenerationGroupName, AssociatedSupplierUnit:
        Optional attribute. FirmAccessQuantity, MaximumExportCapacity Mandatory attributes, and any value between 0 and 99999.999
        (maximum 3 decimals) is allowed Autoproducer: Default is "false". Can be changed to "true" by Market operator only.
        ApplicationReference, TransactionId: These attributes will be returned as part of the response to the query. These are generated by the
        system at the time of submission. RecordStatus: The default value is "SUBMITTED" and need not be submitted. -->
        <Comments>Optional Comments, if any</Comments>
    </TradingSite>
  </RegistrationSubmit>
</RegistrationData>
```

Figure 33: Trading Site (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <TradingSite Action="APPROVED" TransactionId="99999" TradingSiteName="TS_NAME" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </TradingSite>
    </RegistrationApproval>
</RegistrationData>
```

Figure 34: Trading Site (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL" PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of this
        attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade Date. If specified, then
        all the records with specified date between StartDate and EndDate are retrieved. DateType: The default value of this attribute
        is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records with specified Status are retrieved.
        -->
        <!-- This element is mandatory -->
        <TradingSite TradingSiteName="TS_NAME" ParticipantName="PT_NAME"/>
        <!-- ParticipantName, TradingSiteName: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 35: Trading Site (Query)

4.6.13 RESOURCE

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Resource data and sample XMLs for reference.

4.6.13.1 RESOURCE: GENERAL – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations for submitting a request to register a Resource (Unit) and modifying existing resource data. Resource general information must be present before a Unit can be registered to participate in the Balancing Market, Capacity Market or EirGrid/SONI SEMOpx (Ex-Ante) markets

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/> Does not need included on first submission, generated by the system.	Mandatory
Resource Type	VARCHAR2 (3)	Valid values: • GENERATOR (GEN) • DEMAND_SIDE_UNIT (DSU) • ASSETLESS_TRADING_UNIT (AU) • TRADING_UNIT (TU) • EXTERNAL_UNIT (EU) • SUPPLIER_UNIT (SU) • INTERCONNECTOR (IU) • CAPACITY_AGGREGATION_UNIT (CAU) • INTERCONNECTOR_ERROR_UNIT (IEU) • INTERCONNECTOR_RESIDUAL_CAPACITY_UNIT (IRCU)	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional

Name	Data Type	Validation	Mandatory/Optional
Jurisdiction	VARCHAR(32)	Valid values: • ROI • NI	Mandatory
Associated Unit	VARCHAR(32)	Optional Field. Must be a valid Resource Name under the same jurisdiction.	
Assetless Unit Subtype	CHAR(4)	Optional Field. If submitted, then it must be one of the following values; • CCPS • CCPT • SA This field is only applicable to Resource Type AU.	
Acting as Intermediary	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if the Resource Type is GEN or DSU.	Optional
EIC Code	VARCHAR2 (16)	String Type This field must not be submitted for Resource Types SU and CAU.	Optional
Fee Submitted	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if the Resource Type is GEN, DSU, AU, TU, SU and EU.	Optional
Collateral Amount	NUMBER (6,2)	If submitted, must be a NUMBER (min 0 - max 999999.99) *Note: This field is entered by the Market Operator, only.*	Optional
Contract Data Provider	VARCHAR2(64)	StringType	Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable and returned upon query: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR2(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Station Information - Applicable only for Resource Types GEN, DSU and IU			
Station Name	VARCHAR2 (16)	String Type	Mandatory
Station ID	VARCHAR2 (32)	String Type	Optional
Address Line 1	VARCHAR2 (128)	String Type	Mandatory
Address Line 2	VARCHAR2 (128)	String Type	Optional
License Information - Applicable only for Resource Types GEN, DSU, AU and SU			
Exemption from Licence	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is False = 'F'	Optional
License ID	VARCHAR2 (24)	String Type If Exemption from Regulatory License is unchecked then it is a mandatory field.	Optional
License Effective Date	Date	If submitted, must be YYYY-MM-DD	Optional
Attachments			
RES Collateral Data	Attachment	At least one attachment for this type is mandatory. Up to 5 attachments allowed for this type.	Mandatory
Comments			
Text Box	VARCHAR2 (256)	String Type	Optional

Table 21: Resource General - Data Elements & Validations

4.6.13.2 RESOURCE- SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Resource general data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
        <Resource RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" ContractDataProvider="PROVIDER"
        CollateralAmount="999999.99" FeeSubmitted="true" EicCode="EIC_CODE" ActingAsIntermediary="false" Jurisdiction="NI" StartDate="2016-
        08-13" ResourceType="GENERATOR" ResourceName="RES_NAME" ParticipantName="PT_NAME">
            <!-- ParticipantName, StartDate, ResourceType: Mandatory attribute. If the trading participant's
            jurisdiction is NI or ROI then it must be same as trading participant's jurisdiction. If the trading participant's jurisdiction is OTHER then it
            must be one of the other valid Country Types defined in the MMS database. ResourceName: This is the name of the Resource. It is non-
            editable and generated by system upon initial submission. ActingAsIntermediary: Optional attribute, default is "false". EicCode,
            FeeSubmitted, CollateralAmount, ContractDataProvider: Optional attributes and applicable for certain resource types.
            ApplicationReference, TransactionId: These attributes will be returned as part of the response to the query. These are generated by the
            system at the time of submission. EndDate: This attribute will be returned as part of query-response. It should not be included during
            submission. For latest approved record it is always null, for previously approved records it is system generated. RecordStatus: The default
            value of this attribute is "SUBMITTED" and need not be submitted. -->
            <!-- Optional element and applicable only for GEN, EU and IU -->
        <StationInfo AddressLine2="LINE2" AddressLine1="LINE1" StationId="STATION_ID" StationName="ST_NAME"/>
            <!-- StationName, AddressLine1: Mandatory attributes. StationId and AddressLine2 Optional attributes. -->
            <!-- Optional element and applicable only for GEN, DSU, AU, EU & SU. LicenseId and LicenseEffectiveDate is mandatory if
            ExemtionFromLicense is True -->
        <LicenseInfo LicenseEffectiveDate="2016-08-13" LicenseId="LICESNSE_ID " ExemptionFromLicense="false"/>
            <!-- ExemptionFromLicense: Optional attributes. LicenseId, LicenseEffectiveDate: Optional attributes but mandatory if
            ExemptionFromLicense is "false". -->
        <Comments>Optional Comments, if any</Comments>
        </Resource>
    </RegistrationSubmit>
</RegistrationData>
```

Figure 36: Resource (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <Resource Action="APPROVED" TransactionId="99999" ResourceName="RES_NAME" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
        <Comments>Additional comments, if any.</Comments>
        </Resource>
    </RegistrationApproval>
</RegistrationData>
```

Figure 37: Resource (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of this
        attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade Date. If specified, then
        all the records with specified date between StartDate and EndDate are retrieved. DateType: The default value of this attribute
        is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records with specified Status are retrieved.
        -->
        <!-- This element is mandatory -->
        <Resource ResourceName="RES_NAME" ParticipantName="PT_NAME"/>
            <!-- ParticipantName, ResourceName: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 38: Resource (Query)

4.6.14 RESOURCE VALIDITY

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Resource Validity data and sample XMLs for reference.

4.6.14.1 RESOURCE VALIDITY – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations for Resource Validity. This below can be used to query the status of the resource. There are three possible states "REGISTERED", "DE_REGISTERED" and "SUSPEND".

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory

Name	Data Type	Validation	Mandatory/Optional
Resource Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Resource State	VARCHAR(1)	Set to REGISTERED (R) upon approval by the Market Operator.	Mandatory
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Comments			
Text Box	VARCHAR2 (256)	String Type	Optional

Table 22: Resource Validity - Data Elements & Validations

4.6.14.2 RESOURCE VALIDITY – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Resource Validity.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory -->
        <ResourceValidity RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" ResourceState="DEREGISTERED"
        EndDate="2016-08-17" StartDate="2016-08-13" ResourceName="RES_NAME" ParticipantName="PT_NAME">
            <!-- ParticipantName, ResourceName, StartDate: Mandatory attributes. EndDate: This attribute will be returned as part of query-response.
            It should not be included during submission. For latest approved record it is always null, for previously approved records it is system
            generated. ResourceState: Mandatory attribute and valid values are: ACTIVATED/SUSPENDED/DEREGISTERED ApplicationReference,
            TransactionId: These attributes will be returned as part of the response to the query. These are generated by the system at the time of
            submission. RecordStatus: The default value of this attribute is "SUBMITTED" and need not be submitted. -->
            <Comments>Optional Comments, if any</Comments>
        </ResourceValidity>
    </RegistrationSubmit>
</RegistrationData>
```

Figure 39: Resource Validity (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        <ResourceValidity Action="APPROVED" TransactionId="99999" ResourceName="RES_NAME" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </ResourceValidity>
    </RegistrationApproval>
</RegistrationData>
```

Figure 40: Resource Validity (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of this
        attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade Date. If specified, then
        all the records with specified date between StartDate and EndDate are retrieved. DateType: The default value of this attribute
        is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records with specified Status are retrieved.
        -->
        <!-- This element is mandatory -->
        <ResourceValidity ResourceName="RES_NAME" ParticipantName="PT_NAME"/>
            <!-- ParticipantName, ResourceName: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 41: Resource Validity (Query)

4.6.15 RESOURCE: BALANCING MARKET DATA

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Resource Balancing Market data and sample XMLs for reference.

4.6.15.1 RESOURCE: BALANCING MARKET DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for registering a Unit to participate in the Balancing Market, or for modifying existing Balancing Market data for a Unit. Resource general information set out in Section 4.6.13 must be present before a Unit can be registered to participate in the Balancing Market.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Type	VARCHAR2 (3)	Valid values: • GENERATOR (GEN) • DEMAND_SIDE_UNIT (DSU) • ASSETLESS_TRADING_UNIT (AU) • TRADING_UNIT (TU) • EXTERNAL_UNIT (EU) • SUPPLIER_UNIT (SU) • INTERCONNECTOR (IU)[7] • CAPACITY_AGGREGATION_UNIT (CAU) • INTERCONNECTOR_ERROR_UNIT (IEU) • INTERCONNECTOR_RESIDUAL_CAPACITY_ UNIT (IRCU)	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Fuel Type	VARCHAR(22)	Valid values: • BATTERY_STORAGE • BIOMASS • COAL • COMBINED_HEAT_POWER • COMPRESSED_AIR_STORAGE • DISTILLATE • FLY_WHEEL • GAS • HYDRO • MULTI_FUEL • NUCLEAR • OIL • PEAT • PUMP_STORAGE • SOLAR • WIND • OTHER	Optional
Dispatchable	CHAR(1)	Must be true or false. ('T' or 'F') Must be submitted for Resource Type GEN and DSU. Must be true for Resource Type DSU. Must be true for Fuel Type BATTERY_STORAGE and PUMP_STORAGE.	Mandatory
Priority Dispatch	CHAR(1)	Must be true or false. ('T' or 'F') Must be submitted for Resource Type GEN and DSU.	Mandatory
Energy Limited	CHAR(1)	Must be true or false. ('T' or 'F') Must be submitted for Resource Type GEN.	Mandatory

---

[7] Used to represent the Interconnector

Name	Data Type	Validation	Mandatory/Optional
Supplier Unit Subtype	VARCHAR2 (4)	Valid values: • SU • TSSU Applicable only for Resource Type SU.	Optional
Trading Site Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/> It must be a mandatory field for Resource Type GEN, DSU and TU. It must be a mandatory field for Supplier Unit Subtype TSSU.	Optional
Aggregated Generator	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN and Dispatchable is checked.	Optional
AGU SO Agreement	VARCHAR2 (2)	String Type If submitted, must be: • Y • N • NA If Aggregated Generator is unchecked then it must be NA.	Optional
Bidding Zone	VARCHAR2 (4)	Valid values: • GBP • EURO	Mandatory
Settlement Group Name	VARCHAR2 (12)	String Type	Mandatory
Maximum Export Capacity	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999) Must be mandatory for Resource Type GEN and DSU.	Mandatory
Non-Firm Access	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field is applicable only for Resource Types GEN.	Optional
Non-Firm Access Quantity	NUMBER (5,3)	If submitted, must be a NUMBER (min 0 - max 99999.999)	Optional
TUoS Agreement	VARCHAR2 (2)	Valid values: • COMPLETED (C) • IN_PROGRESS (IP) • NA If Exemption from TUoS Agreement (see below) is checked then it must be NA. Mandatory for Resource Types GEN, DSU and SU. Must be NA for others.	Optional
Exemption from TUoS Agreement	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN, DSU or SU.	Optional
DUoS Agreement	VARCHAR2 (2)	Valid values: • Completed (C) • NA Mandatory for Resource Types DSU and SU. Must be NA for others.	Optional
Meter ID (MPRN)	VARCHAR2 (72)	String Type It must be mandatory for Resource Types GEN and IU.	Optional
DSU-SO Agreement	VARCHAR2 (2)	Valid values: • Y • N • NA Can be entered only by the Market Operator.	Optional
Meter Data Provider	VARCHAR2(12)	It must be a mandatory field for Resource Type GEN, SU and IU. Valid values; • MDP_MRSO • MDP_NIE • MDP_EIRGRID • MDP_SONI Can be entered only by the Market Operator.	Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable: <unique_numeric_sequence_upto_18_digits>	N/A

Name	Data Type	Validation	Mandatory/Optional
NPDR Flag	VARCHAR2 (2)	Valid values: • Y • N System generated value identifying whether a unit is a non-priority dispatch renewable. The value is not visible within the MPI. Value is non-editable and will be generated as 'Y' for units with: • Fuel Type equal to 'WIND' or 'SOLAR' • Controllable equal to 'T' • Dispatchable equal to 'F' • Priority Dispatch equal to 'F'	N/A
Record Status	VARCHAR2(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Connection Information - Applicable only for Resource Types GEN, DSU and IU.			
Connection Type	VARCHAR2 (12)	Valid values: • TRANSMISSION • DISTRIBUTION	Mandatory
Connection Agreement	VARCHAR2 (12)	Valid values: • COMPLETED • IN_PROGRESS	Mandatory
Connection Agreement Reference	VARCHAR2 (32)	String Type	Optional
Participant Entered Information			
Controllable	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN and Dispatchable is unchecked.	Optional
Combined Cycle Unit	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN, Dispatchable is checked and Priority Dispatch is unchecked.	Optional
Short Notice Unit	CHAR(1)	Must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN and Dispatchable is checked and Priority Dispatch is unchecked.	Optional
Synchronous	VARCHAR2 (12)	Valid values: • SYNCHRONOUS • ASYNCHRONOUS It must be mandatory for Resource Types GEN.	Optional
Dual Rated Unit	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN, Dispatchable is checked and Priority Dispatch is unchecked.	Optional
Secondary Fuel Type	VARCHAR(22)	Valid values: • BATTERY_STORAGE • BIOMASS • COAL • COMBINED_HEAT_POWER • COMPRESSED_AIR_STORAGE • DISTILLATE • FLY_WHEEL • GAS • HYDRO • MULTI_FUEL • NUCLEAR • OIL • PEAT • PUMP_STORAGE • SOLAR • WIND • OTHER Mandatory if Dual Rated Unit is checked. Can be submitted only if Resource Type is GEN and Dispatchable is checked.	Optional
Registered Capacity	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999) It must be 0 for Resource Types other than GEN.	Mandatory
Minimum Generation	NUMBER (5,3)	Must be a NUMBER (min - 99999.999 to max 0) It must be 0 for Resource Types other than GEN.	Mandatory
Maximum Generation	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999) It must be 0 for Resource Types other than GEN.	Mandatory

Name	Data Type	Validation	Mandatory/Optional
Minimum Storage Capacity[8]	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999) Only Relevant to Pump Storage and Battery Storage Units.	Mandatory
Maximum Storage Capacity[9]	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999) Only Relevant to Pump Storage and Battery Storage Units.	Mandatory
Fixed Unit Load	NUMBER (5,3)	If submitted, must be a NUMBER (min 0 - max 99999.999) Must be mandatory for Resource Type GEN.	Optional
Unit Load Scalar	NUMBER (5,4)	If submitted, must be between 0 and 1. 4 decimal places. Must be mandatory for Resource Type GEN.	Optional
Droop	NUMBER (4,2)	If submitted, must be a NUMBER (min 0 - max 99999.999) Must be mandatory for Resource Type GEN.	Optional
Dispatchable Capacity	NUMBER (5,3)	If submitted, must be a NUMBER (min 0 - max 99999.999) Must be mandatory for Resource Type DSU.	Optional
Non Dispatchable Capacity	NUMBER (5,3)	If submitted, must be a NUMBER (min 0 - max 99999.999) Must be mandatory for Resource Type DSU.	Optional
MO Entered Information (Not submitted by the Participant)			
Meter Transmission Type	VARCHAR(4)	String Type Values consistent with I-SEM_MI MMS MDP Functional Design Document Mandatory for Resource Types GEN, SU and IU.	Optional
Autoproducer	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN, DSU, TU and SU.	Optional
Zero Marginal Cost[10]	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN and DSU.	Optional
Operational Certificate Issued	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if Resource Type is GEN and DSU.	Optional
Operational Certificate Effective Date	Date	Date If submitted, must be YYYY-MM-DD Mandatory if Operator Certificate Issued checkbox is checked.	Optional
Retail Market Registration Complete	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only by the Meter Data Provider and applicable only for Resource Type SU.	Optional
BMU Information (Not submitted by the Participant)			
Generation Name	VARCHAR2 (12)	String Type	Optional
Demand Name	VARCHAR2 (12)	String Type	Optional
TSO Entered Information (Not submitted by the Participant)			
EMS Code	VARCHAR2 (32)	VARCHAR2 (32) String Type	Optional
EDIL Code	VARCHAR2 (32)	VARCHAR2 (32) String Type	Optional

Dispatch System	VARCHAR2 (12)	VARCHAR2 (12)
		String Type
		If submitted, must be:
		  • EMS
		  • EDIL
			Optional

Negative Ramping Reserve	CHAR(1)	If submitted, must be true or false. ('T' or 'F')	Optional
Priority Dispatch Category	VARCHAR(2)	VARCHAR(2) If submitted, must be a valid number between 1 (inclusive) and 20 (inclusive)	Optional

---

[8] Minimum Storage Quantity submitted as Minimum Storage Capacity.
[9] Maximum Storage Quantity submitted as Maximum Storage Capacity.
[10] This is a flag set in registration by the Market Operator during the process of registering a Generator Unit, as it is needed for downstream applications. It will be set to 'True' for any Generator Unit that does not have any marginal generation costs.

Name	Data Type	Validation	Mandatory/Optional
Curtailment Priority	VARCHAR(2)	VARchar(2) String Type If submitted, must be: • 1 • 2a • 2b • 2c • 2d • 2e • 3	Optional
Interconnector Information (Interconnector Units Only)			
Minimum Import Capacity	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
Maximum Import Capacity	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
Import Ramp Rate	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
Minimum Export Capacity	NUMBER (5,3)	Must be a NUMBER (min - 99999.999 to max 0)	Mandatory
Maximum Export Capacity	NUMBER (5,3)	Must be a NUMBER (min - 99999.999 to max 0)	Mandatory
Export Ramp Rate	NUMBER (5,3)	Must be a NUMBER (min - 99999.999 to max 0)	Mandatory
Comments			
Text Box	VARCHAR2 (256)	String Type	Optional

Table 23: Resource Balancing - Data Elements & Validations

4.6.15.2 RESOURCE: BALANCING MARKET DATA – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Resource Balancing Market data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
  <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory & applicable only for GEN, DSU, AU, TU, SU, IU, NGU, IEU & IRCU -->
    <ResourceBalancing RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" MeterDataProvider="MDP_NAME"
        DsuSoAgreement="NO" MeterId="METER_ID" DuosAgreement="COMPLETED" ExemptionFromTuosAgreement="false"
        TuosAgreement="IN_PROGRESS" NonFirmAccessQuantity="99999.999" NonFirmAccess="true" MaximumExportCapacity="99999.999"
        SettlementGroupName="STTL_GRP_NAME" BiddingZone="GBP" AguSoAgreement="YES" AggregatedGenerator="true" TradingSiteName="TS_NAME"
        EnergyLimited="true" PriorityDispatch="true" Dispatchable="true" FuelType="HYDRO" EndDate="2016-08-17" StartDate="2016-08-13"
        ResourceType="GENERATOR" ResourceName="RES_NAME" ParticipantName="PT_NAME">
        <!-- ParticipantName, ResourceName, ResourceType, StartDate: Mandatory attributes. EndDate: Optional attribute. In case user does not submit
        it, default is null, and, it will be system generated when it is superseded by next approved record, and will be returned as part of query-response.
        FuelType: Mandatory for GEN. Dispatchable: Mandatory attribute and applicable for ResourceType GEN and DSU. PriorityDispatch: Mandatory
        attribute. Applicable for ResourceType GEN and DSU. If resource type is DSU, then it must be "false". For any other resource it is "false".
        EnergyLimited: Mandatory attribute. Applicable only for GEN and Dispatchable & Priority Dispatch. SupplierUnitSubtype: Optional attribute.
        Applicable only for ResourceType SU. Valid values are: SU and TSSU. ApplicationReference, TransactionId: These attributes will be returned as part
        of the response to the query. These are generated by the system at the time of submission. RecordStatus: The default value of this attribute is
        "SUBMITTED" and need not be submitted. -->
        <!-- Applicable only for GEN, DSU & IU -->
      <ConnectionInfo AgreementReference="AGGREMENT_REFERENCE" Agreement="COMPLETED" ConnectionType="DISTRIBUTION"/>
        <!-- ConnectionType: Mandatory attribute- allowed values are "TRANSMISSION" & "DISTRIBUTION". Agreement: Mandatory attribute- allowed
        values are "COMPLETED" & "IN_PROGRESS". AgreementReference: Optional attribute. -->
        <!-- Optional element and applicable only for GEN & DSU -->
      <ParticipantEnteredInfo MaximumStorageCapacity="75" MinimumStorageCapacity="50" MaximumGeneration="100" MinimumGeneration="0"
        NonDispatchableCapacity="99999.999" DispatchableCapacity="99999.999" Droop="9999.99" UnitLoadScalar="1.9999"
        FixedUnitLoad="99999.999" RegisteredCapacity="99999.999" SecondaryFuelType="MULTI_FUEL" DualRatedUnit="true"
        Synchronous="SYNCHRONOUS" ShortNoticeUnit="false" CombinedCycleUnit="false" Controllable="false"/>
        <!-- Controllable: Value can be "true" only when resource type is "GEN" and Dispatchable is "false" and priorityDispatch is "True". Default is "false".
        CombinedCycleUnit, ShortNoticeUnit, DualRatedUnit: Value can be "true" only when resource type is "GEN" and Dispatchable is "true" and
        priorityDispatch is "false". Default is "false". Synchronous: Optional attribute, but mandatory for GEN. Value can be either "SYNCHRONOUS" or
        "ASYNCHRONOUS". SecondaryFuelType: Optional attribute but mandatory if DualRatedUnit is checked. Can be submitted only when resource type
        is GEN and Dispatchable is "true". RegisteredCapacity, MinimumGeneration, MaximumGeneration, MinimumStorageCapacity,
        MaximumStorageCapacity : Mandatory attribute, its value must be 0 for resource type other than GEN. FixedUnitLoad, UnitLoadScalar, Droop:
        Optional attribute, but mandatory for GEN. DispatchableCapacity, NonDispatchableCapacity: Optional attribute but mandatory for DSU. -->
        <!-- Optional element and applicable for GEN, DSU, TU & SU -->
      <MoEnteredInfo RetailMarketRegComplete="false" OperCertEffectiveDate="2016-08-13" OperCertIssued="false" ZeroMarginalCost="false"
        Autoproducer="false" MeterTransmissionType="NPED"/>
        <!-- MeterTransmissionType: Optional attribute but mandatory for GEN, SU & IU. Valid values are: PED,NPED,PEG,NPEG,CJF,NONE Autoproducer:
        Default value is "false", can be "true" only for resource type GEN, DSU, TU & SU ZeroMarginalCost: Optional attribute and OperCertIssued: Default is "false", can be "true"
        only for resource type GEN & DSU OperCertEffectiveDate: Optional attribute but mandatory if OperCertIssued is "true" RetailMarketRegComplete:
        default value is "false", applicable only for resource type SU. This attribute can be provided only by Meter Data Provider. -->
        <!-- Optional element, but mandatory for IEU and IRCU -->
      <BmuInfo DemandName="DEMAND_NAME" GenerationName="GEN_NAME"/>
        <!-- GenerationName, DemandName: Optional attribute -->
        <!-- Applicable and optional only for GEN & DSU, can be entered only by TSO -->
      <TsoEnteredInfo PriorityDispatchCategory="20" NegativeRampingReserve="false" DispatchSystem="EDIL" EdilCode="EDIL_CODE"
        EmsCode="EMS_CODE"/>
        <!-- EmsCode, EdilCode: Optional attribute. DispatchSystem: Optional attribute, valid values are "EMS" and "EDIL". NegativeRampingReserve:
        Optional attribute, default is "false". PriorityDispatchCategory: Optional attribute and must be present if PriorityDispatch is "true".
        CurtailmentPriority: Optional attribute, can be submitted only if PriorityDispatch is "true" and EnergyLimit is "false". valid values are: 1, 2a, 2b, 2c,
        2d, 2e, 3. -->
        <!-- Optional element, mandatory only for IU, all attributes are mandatory -->
      <InterconnectorInfo MaximumExportCapacity="-99999.999" ExportRampRate="-99999.999" MinimumExportCapacity="-99999.999"
        ImportRampRate="99999.999" MaximumImportCapacity="99999.999" MinimumImportCapacity="99999.999"/>
        <!-- MinimumImportCapacity, MaximumImportCapacity, ImportRampRate, MinimumExportCapacity, MaximumExportCapacity, ExportRampRate:
        Mandatory attribute. -->
      <Comments>Optional Comments.</Comments>
    </ResourceBalancing>
  </RegistrationSubmit>
</RegistrationData>
```

Figure 42: Resource: Balancing (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
    <ResourceBalancing Action="APPROVED" TransactionId="99999" ResourceName="RES_NAME"
        ParticipantName="PT_NAME">
        <!-- All attributes are mandatory -->
        <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
      <Comments>Additional comments, if any.</Comments>
    </ResourceBalancing>
  </RegistrationApproval>
</RegistrationData>
```

Figure 43: Resource: Balancing (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <!-- This element is mandatory -->
    <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
    PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of this
        attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade Date. If specified, then
        all the records with specified date between StartDate and EndDate are retrieved. DateType: The default value of this attribute
        is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records with specified Status are retrieved.
        -->
        <!-- This element is mandatory -->
        <ResourceBalancing ResourceName="RES_NAME" ParticipantName="PT_NAME"/>
        <!-- ParticipantName, ResourceName: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 44: Resource: Balancing (Query)

4.6.16 RESOURCE: CAPACITY MARKET DATA

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Resource Capacity Market data and sample XMLs for reference.

4.6.16.1 RESOURCE: CAPACITY MARKET DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for registering a Unit to participate in the Capacity Market, or for modifying existing Capacity Market data for a Unit. Resource general information set out in Section 4.6.13 must be present before a Unit can be registered to participate in the Capacity Market.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Type	VARCHAR2 (12)	Valid values: • GENERATOR (GEN) • DEMAND_SIDE_UNIT (DSU) • EXTERNAL_UNIT (EU)[11] • CAPACITY_AGGREGATION_UNIT (CAU)	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Pricing Zone	VARCHAR2 (32)	String Type Note: Must be SEM for all Units.	Mandatory
Aggregation Group Name	VARCHAR2 (32)	String Type This field must not be submitted for Resource Type CAU.	Optional
CRM Unit Type	VARCHAR2 (32)	String Type Must be one of the valid CRM Unit.	Mandatory
De-Rating Factor[12]	NUMBER(3,2)	Must be a NUMBER between 0 and 100	Mandatory
Maximum Exit Price[13]	NUMBER (5,3)	Must be a NUMBER (min -999999.99 - max 999999.99)	Mandatory
Bid Tolerance[14]	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
Approval to Construct	CHAR(1)	If submitted, must be true or false. ('T' or 'F') This field can be checked only if the Resource Type is GEN or DSU.	Optional

---

[11] External Unit "means a unit registered to participate in the Capacity Market, which is not located in any Jurisdiction in the I-SEM". External Units will not be a valid Unit Type for participation in the Capacity Market.
[12] Not applicable for I-SEM Go Live.
[13] Not applicable for I-SEM Go Live.
[14] Not applicable for I-SEM Go Live.

Name	Data Type	Validation	Mandatory/Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Capacity Information			
Unit Capacity	NUMBER (5,3)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
Delivery Start Date	Date	Must be YYYY-MM-DD	Mandatory
Delivery End Date	Date	Must be YYYY-MM-DD	Mandatory
Meter Information - This must not be submitted for Resource Type CAU			
Meter ID	VARCHAR2 (72)	String Type	Optional
Location	VARCHAR2 (32)	String Type	Optional
Implementation Information - This must not be submitted for Resource Type CAU			
Key Date 1	Date	Must be YYYY-MM-DD	Optional
Key Date 2	Date	Must be YYYY-MM-DD	Optional
Key Date 3	Date	Must be YYYY-MM-DD	Optional
Key Date 4	Date	Must be YYYY-MM-DD	Optional
Key Date 5	Date	Must be YYYY-MM-DD	Optional
Attachment - This must not be submitted for Resource Type CAU.			
RESCRM Implementation Plan	Attachment	At least one attachment for this type is mandatory. Up to 5 attachments allowed for this type.	Mandatory
Comments			
Text Box	VARCHAR2 (256)	String Type	Optional

Table 24: Resource Capacity Market - Data Elements & Validations

4.6.16.2 RESOURCE: CAPACITY MARKET DATA – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Resource Capacity Market data.

Figure 45: Resource: Capacity Market (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
  instance">
    - <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
        - <ResourceCrm Action="APPROVED" TransactionId="99999" ResourceName="RES_NAME" ParticipantName="PT_NAME">
            <!-- All attributes are mandatory -->
            <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
            <Comments>Additional comments, if any.</Comments>
        </ResourceCrm>
    </RegistrationApproval>
</RegistrationData>
```

Figure 46: Resource: Capacity Market (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
  instance">
        <!-- This element is mandatory -->
    - <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
      PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of this
        attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade Date. If specified, then
        all the records with specified date between StartDate and EndDate are retrieved. DateType: The default value of this attribute
        is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records with specified Status are retrieved.
        -->
        <!-- This element is mandatory -->
        <ResourceCrm ResourceName="RES_NAME" ParticipantName="PT_NAME"/>
            <!-- ParticipantName, ResourceName: Optional attributes. -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 47: Resource: Capacity Market (Query)

4.6.17 RESOURCE: SEMOPX DATA

This section addresses the data elements and validations used within the I-SEMI-SEM Registration System for Resource SEMOpx data and sample XMLs for reference.

4.6.17.1 RESOURCE: SEMOPX DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for registering a Unit to participate in the SEMOpx (Ex-Ante) markets, or for modifying existing SEMOpx data for a Unit. Resource general information set out in Section 4.6.13 must be present before a Unit can be registered to participate in the SEMOpx markets.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Type	VARCHAR2 (3)	Valid values: • GENERATOR (GEN) • DEMAND_SIDE_UNIT (DSU) • ASSETLESS_TRADING_UNIT (AU) • TRADING_UNIT (TU) • SUPPLIER UNIT (SU)	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
Associated Participant Name	VARCHAR(12)	Must be a valid Participant Name.	Optional
Trading Currency	VARCHAR4)	Valid values: • GBP • EURO	Mandatory
REMIT Reporting	CHAR(1)	If submitted, must be true or false. ('T' or 'F') Default is False = 'F'	Optional

Name	Data Type	Validation	Mandatory/Optional
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Comments			
Text Box	VARCHAR2 (256)	String Type	Optional

Table 25: Resource SEMOpx - Data Elements & Validations

4.6.17.2 RESOURCE: SEMOPX – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Resource SEMOpx data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
   <RegistrationSubmit PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. -->
        <!-- This element is mandatory and applicable only for GEN, DSU, AU, TU, SU & IU -->
      <ResourceNemo RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999"
      IdmContinuousPortfolioId="Idm_continuous_portfolio_id" DamPortfolioId="dam_portfolio_id" RemitReporting="false"
      TradingCurrency="EURO" AssociatedParticipantName="NAME" EndDate="2016-08-17" StartDate="2016-08-13"
      ResourceType="GENERATOR" ResourceName="RES_NAME" ParticipantName="PT_NAME">
        <!-- ParticipantName, ResourceName, ResourceType, StartDate: Mandatory attributes. EndDate: Optional attribute. In case user
        does not submit it, default is null, and, it will be system generated when it is superseded by next approved record, and will be
        returned as part of query-response. DamPortfolioId, IdmContinuousPortfolioId, RemitReporting: Optional attribute. TradingCurrency:
        Mandatory attribute, and must be either "GBP" or "EURO" AssociatedParticipantName: Optional attribute. ApplicationReference,
        TransactionId: These attributes will be returned as part of the response to the query. These are generated by the system at the time
        of submission. RecordStatus: The default value of this attribute is "SUBMITTED" and need not be submitted. -->
        <!-- This element is optional -->
      <Comments>Optional Comments.</Comments>
      </ResourceNemo>
   </RegistrationSubmit>
</RegistrationData>
```

Figure 48: Resource: SEMOpx (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
   <RegistrationApproval PartyRole="MARKET_OPERATOR" PartyName="PY_NAME">
        <!-- PartyName, PartyRole: Mandatory attributes. -->
      <ResourceNemo Action="APPROVED" TransactionId="99999" ResourceName="RES_NAME" ParticipantName="PT_NAME">
        <!-- All attributes are mandatory -->
        <!-- Valid values for Action are: RECEIVED/WITHDRAWN/DENIED/APPROVED -->
      <Comments>Additional comments, if any.</Comments>
      </ResourceNemo>
   </RegistrationApproval>
</RegistrationData>
```

Figure 49: Resource: SEMOpx (Approval)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
   <RegistrationQuery RecordStatus="APPROVED" DateType="TRADE" Date="2016-01-01" Action="NORMAL"
   PartyName="PY_NAME">
        <!-- PartyName: Mandatory attribute. This attribute should be the relevant Party Name. Action: The default value of this
        attribute is "NORMAL" and need not be submitted. Date: This attribute should be the relevant Trade Date. If specified, then
        all the records with specified date between StartDate and EndDate are retrieved. DateType: The default value of this attribute
        is "TRADE" and need not be submitted. RecordStatus: If specified, then all the records with specified Status are retrieved.
        -->
        <!-- This element is mandatory -->
      <ResourceNemo ResourceName="RES_NAME" ParticipantName="PT_NAME"/>
        <!-- ParticipantName, ResourceName: Optional attributes. -->
   </RegistrationQuery>
</RegistrationData>
```

Figure 50: Resource: SEMOpx (Query)

4.6.18 RESOURCE: AOLR DATA

This section addresses the data elements and validations used within the I-SEM Registration System for Resource AoLR data and sample XMLs for reference.

4.6.18.1 RESOURCE: AOLR DATA – DATA ELEMENTS AND VALIDATIONS

The following table describes the field descriptions and validations required for registering a Unit to participate in the SEMOpx (Ex-Ante) markets, via the Agent of Last Resort, or for modifying existing data. Resource general information set out in Section 4.6.13 must be present before a Unit can be registered to participate with the Agent of Last Resort.

Name	Data Type	Validation	Mandatory/Optional
General Information			
Participant Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Name	VARCHAR2 (12)	String Type "[A-Z_0-9\-]*"/>	Mandatory
Resource Type	VARCHAR(3)	Valid values: • GENERATOR (GEN) • DEMAND_SIDE_UNIT (DSU)	Mandatory
Start Date	Date	Must be YYYY-MM-DD	Mandatory
End Date	Date	If submitted, must be YYYY-MM-DD	Optional
AoLR Unit Type	VARCHAR2 (17)	Valid values: • DISPATCHABLE_ONLY • WIND_FORECAST • SOLAR_FORECAST • OTHER	Mandatory
AoLR Unit Capacity	NUMBER (5,2)	Must be a NUMBER (min 0 - max 99999.999)	Mandatory
AoLR NEMO Currency	VARCHAR2 (4)	Valid values: • GBP • EURO	Mandatory
AoLR NEMO User Name	VARCHAR2 (16)	String Type Can be entered only by the Market Operator	Mandatory
AoLR NEMO Passcode	VARCHAR2 (12)	String Type Can be entered only by the Market Operator	Mandatory
Application Reference	NUMBER(18)	System generated unique reference assigned for each application change cycle. This field is non-editable: <unique_numeric_sequence_upto_18_digits>	N/A
Record Status	VARCHAR(15)	The default value is "SUBMITTED" and need not be submitted.	N/A
Attachments			
RESAOLR Agreement Form	Attachment	Up to 5 attachments allowed for this type.	Optional
Comments			
Text Box	VARCHAR2 (256)	String Type	Optional

Table 26: Resource AoLR - Data Elements & Validations

4.6.18.2 RESOURCE: AOLR – SAMPLE XML

The figures below are sample XMLs relating to the submission, approval and querying of Resource AoLR data.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<RegistrationData xsi:noNamespaceSchemaLocation="mpr.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <!-- This element is mandatory -->
    <RegistrationSubmit PartyName="PY_NAME">
            <!-- PartyName: Mandatory attribute. -->
            <!-- This element is mandatory and applicable only for GEN, DSU -->
        <ResourceAolr RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999"
        AolrNemoPasscode="PASSCODE" AolrNemoUserName="USER_NAME" AolrNemoCurrency="EURO" AolrUnitCapacityType="99999.999"
        AolrUnitType="SOLAR_FORECAST" AolrActive="YES" EndDate="2016-08-17" StartDate="2016-08-13" ResourceType="GENERATOR"
        ResourceName="RES_NAME" ParticipantName="PT_NAME">
                <!-- ParticipantName, ResourceName, ResourceType, StartDate, AolrNemoUserName, AolrNemoPasscode:: Mandatory attributes.
                AolrActive: Mandatory attribute and the value is either "YES" or "NO". AolrUnitType: Mandatory attribute and the allowed values are:
                "DISPATCHABLE_ONLY", "WIND_FORECAST", "SOLAR_FORECAST" and "OTHER". AolrUnitCapacityType: Mandatory attribute.
                AolrNemoCurrency: Mandatory attribute and must be either "GBP" or "EURO" EndDate: Optional attribute. In case user does not
                submit it, default is null, and, it will be system generated when it is superseded by next approved record, and will be returned as
                part of query-response. ApplicationReference, TransactionId: These attributes will be returned as part of the response to the query.
                These are generated by the system at the time of submission. RecordStatus: The default value of this attribute is "SUBMITTED" and
                need not be submitted. -->
                <!-- Optional Element -->
            <Comments>Optional Comments.</Comments>
        </ResourceAolr>
    </RegistrationSubmit>
</RegistrationData>
```

Figure 51: Resource: AoLR (Submit)

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<RegistrationData xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="mpr-isem.xsd">
    <RegistrationApproval PartyName="PY_NAME" PartyRole="MARKET_OPERATOR">
        <!--      PartyName, PartyRole:
                Mandatory attributes.
            -->
        <ResourceAolr ParticipantName="PT_NAME" ResourceName="RES_NAME" TransactionId="99999" Action="APPROVED">
            <!--  All attributes are mandatory   -->
            <!--          Valid values for Action are:
                    RECEIVED/WITHDRAWN/DENIED/APPROVED
                -->
            <Comments>Additional comments, if any.</Comments>
        </ResourceAolr>
    </RegistrationApproval>
</RegistrationData>
```

Figure 52: Resource: AoLR (Approval)

```xml
<?xml version="1.0" encoding="utf-8" ?>
<RegistrationData xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="mpr-isem.xsd">
    <!--  This element is mandatory   -->
    <RegistrationQuery PartyName="PY_NAME" Action="NORMAL" Date="2016-01-01" DateType="TRADE" RecordStatus="APPROVED">
        <!--      PartyName:
                Mandatory attribute. This attribute should be the relevant Party Name.
            Action:
                The default value of this attribute is "NORMAL" and need not be submitted.
            Date:
                This attribute should be the relevant Trade Date. If specified, then all
                the records with specified date between StartDate and EndDate are retrieved.
            DateType:
                The default value of this attribute is "TRADE" and need not be submitted.
            RecordStatus:
                If specified, then all the records with specified Status are retrieved.
            -->
        <!--  This element is mandatory   -->
        <ResourceAolr ParticipantName="PT_NAME" ResourceName="RES_NAME" />
        <!--      ParticipantName, ResourceName:
                Optional attributes.
            -->
    </RegistrationQuery>
</RegistrationData>
```

Figure 53: Resource: AoLR (Query)

5 BALANCING MARKET TRADING

5.1 INTRODUCTION

The transactions covered in this section relate to trading in the Balancing Market and are summarised as follows:

Transaction Type	Principal Element(s)	Content
Commercial Offer Data (Generators)	Forecast fuel_use pump_storage_detail battery_storage_detail energy_limit_detail cod_detail – "complex" cod_detail – "simple"	Forecast Availability Fuel Usage indicators Pumped Storage Unit parameters Battery Storage parameters Energy Limited Unit parameters Complex Commercial Offer Data Simple Commercial Offer Data
Commercial Offer Data (Demand Side Units)	forecast cod_detail – "complex" cod_detail – "simple"	Forecast Availability Complex Commercial Offer Data Simple Commercial Offer Data
Technical Offer Data	sem_gen_technical_offer sem_dem_technical_offer	Technical Offer Data for Generators Technical Offer Data for Demand Side Units
VTOD Choice	sem_gen_technical_offer_choice	VTOD choice (sets 1-6)
Physical Notifications	sem_pn_submit	PN submission (start time/mw and end time/mw; Unit Under Test flag where PN is associated with proposed period of testing)

Table 27: Trading Transactions

This section describes the submission and retrieval of trading data via the I-SEM Balancing Market Interface, via Type 3. In order to submit such data, a Participant must:

1. establish a connection to the I-SEM Balancing Market Interface using a valid Digital Certificate; and

2. submit the relevant Balancing Market trading data to the Balancing Market Trading Interface.

Upon receipt of a submission of Balancing Market trading data to the Balancing Market Trading Interface, the content of the submission will be validated. Each submission will receive a response, which will give information messages on the success or failure of the submission and its constituent elements.

The Balancing Market Trading Interface also provides capability to retrieve trading data for the Participant and/or its Units (and associated Trading Sites), using the "market_query" method.

5.2 TYPE 3 SUBMISSION STRUCTURE

In general, the structure of each Type 3 submission is summarised as follows:

- submission or query element (e.g. "market_submit", "market_query"), which:
    - determines if the submission relates to data submission or query;
    - always contains common elements, as set out below in this section; and
    - determines the validity of the submission or query.
- external_id, which is a Participant-defined field which is returned in the web service response message. The external_id has no functional effect in the I-SEM Systems and does not need to be submitted.
- Transaction-specific element(s), for example:
    - sem_pn_submit contains a PN submission for a Unit.

Table 28 contains the common attributes that apply to both "market_submit" and "market_query" submissions via Type 3 interface. Details of common attributes required for reporting are covered in Section 6.4.1.1.

Name	Validation	Validation Message	Hard / Soft	Submission	Query
application_type	Specific application request type.		H	Mandatory	Mandatory
	Must be "BM".		H		
trading_date, date	YYYY-MM-DD There are different validation rules based on the message type, which are detailed in each individual message section below.		H	Mandatory	Mandatory
standing_flag	Indicates if the bid request is for a normal or for a standing bid.		H	**See details elsewhere in this document for each individual submission transaction	**See details elsewhere in this document for each individual query transaction
	Must be TRUE or FALSE				
	There are different validation rules based on the message type, which are detailed in each individual message section below.				
participant_name, user_name	Must be STRING.		H	Mandatory	Mandatory
	Must be valid in combination with user_name.	Invalid combination of participant_name {0} and user_name {1} for trading_date {2}.	H		
	Must have system privileges to allow Market Trading.	The user_name {0} for participant_name {1} does not have system access privileges to participate in Market Trading for trading_date {2}.	H		
user_name	Must be STRING		H	Mandatory	Mandatory
	Must be valid in combination with participant_name.	Invalid combination of participant_name {0} and user_name {1} for trading_date {2}	H		
	Must have system privileges to allow Market Trading.	The user_name {0} for participant_name {1} does not have system access privileges to participate in Market Trading for trading_date {2}.	H		
version_no	The current version of the template.			Mandatory	Mandatory
	Must be "1.0".				
mode	Must be NORMAL.			Mandatory	Mandatory

Table 28: Common Type 3 submission attributes and validations

5.3   MARKET INTERFACE DATA SUBMISSION PROCESS

5.3.1   MARKET INTERFACE DATA SUBMISSION OVERVIEW

Section 5.3 sets out the structure of each Type 3 submission or query transaction for the Balancing Market Interface. *Figure 54* summarises the process by which Type 3 submission/queries are prepared and submitted.
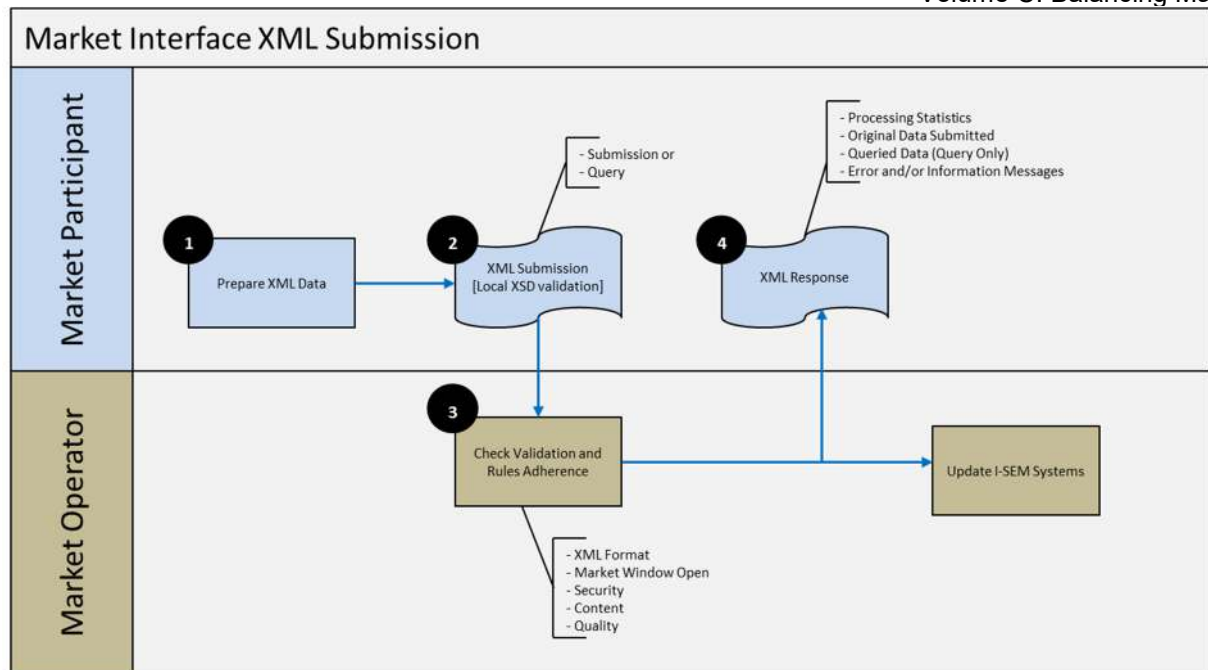
Figure 54: Balancing Market Trading Interface, processing overview

- **Step 1**: Participants prepare the XML Data. (Details on how this needs to be packaged, in terms of SOAP, WSDL, etc. are covered in the I-SEM Technical Specification, Volume B);
- **Step 2**: Submissions or queries will be validated on the client (Participant) system to ensure compliance with the XML Schema rules, prior to submission;
- **Step 3**: Once submitted, the Transaction is received by the Balancing Market Trading Interface and further validation checks, including business rules, are applied (see validations and sample XML for each transaction throughout this volume);
- **Step 4**: If the Step 3 validations are successful, the Balancing Market Trading Interface accepts the submission as appropriate, and an XML response is issued to the Participant. If the tests are unsuccessful, a response is issued detailing the errors.

Each submission may contain multiple submissions in a single Transaction (e.g. a single submission may contain submission of Forecast Availability and Commercial Offer Data).

As set out in Table 28: Common Type 3 submission attributes and validations each transaction must contain required common elements.

Each Transaction has a Gate Window associated with its submission:

- When a Gate Window is opened, this signifies the start of the period of time within which the Participant may submit data to be accepted and used in the associated Trading Window.
- When a Gate Window is closed, this signifies the end of the period of time in which any Participant Data submissions relating to the associated Trading Window is accepted.

Section 5.3.2 sets out the Trading Periods that define each Trading Window. Section 5.3.3 defines the Gate Windows that apply to the submission of each transaction required for each Trading Window.

5.3.2 TRADING WINDOWS

Table 29 sets out the set of Trading Periods that comprise each Trading Window. A Trading Window defines those Trading Periods in a Trading Day whereby transactions may be submitted (e.g. Commercial Offer Data, Technical Offer Data, or Physical Notification Data), as applicable.

There are normally 48 Trading Windows in each Trading Day (although for long and short days there will be 50 or 46 Trading Windows respectively).

Trading Window	Start of Trading Window[15]	End of Trading Window
TW1	Trading Period commencing at 23:00 on the Trading Day	Trading Period commencing at 22:30 on the day on which the Trading Day ends
TW2	Trading Period commencing at 23:30 on the Trading Day	Trading Period commencing at 22:30 on the day on which the Trading Day ends
TW3	Trading Period commencing at 00:00 on the Trading Day	Trading Period commencing at 22:30 on the day on which the Trading Day ends
…..	…..	…..
TW48	Trading Period commencing at 22:30 on the Trading Day	Trading Period commencing at 22:30 on the day on which the Trading Day ends

Table 29: Trading Window definitions

5.3.3 GATE WINDOWS (DATA SUBMISSION TIMINGS)

Table 30 shows the submission timings (i.e. applicable Gate Windows) in respect of each of the Balancing Market transactions.

Transaction	Gate Window Initial Submission Requirements[16]	Subsequent Submission Gate Window Timings (TW1 – TW48)
Physical Notifications	• Opens: TD-19, 12:00 • Closes: TD-1, 13:30	• Closes: 1h prior to start of Imbalance Settlement Period
Simple COD	• Opens: TD-19, 12:00 • Closes: TD-1, 13:30	• Closes: 1h prior to start of Imbalance Settlement Period
Complex COD	• Opens: TD-19, 12:00 • Closes: TD-1, 13:30	• Closes: 1h prior to start of Imbalance Settlement Period
Forecast Availability	• Opens: TD-19, 12:00 • Closes: TD-1, 13:30	• Closes: 1h prior to start of Imbalance Settlement Period
VTOD set selection	• Opens: TD-19, 12:00 • Closes: TD-1, 13:30 (if no selection is submitted, set 1 is used)	• Not relevant
VTOD Submission	• No Gate Open or Close • 11 Working Day business process for VTOD validation	• Not relevant

Table 30: Data Submission Gate Windows

5.3.4 DEFAULT AND TRADING DAY "COMPLEX" COMMERCIAL OFFER DATA & FORECAST AVAILABILITY

For Complex Commercial Offer Data and Forecast Availability data see Section 5.5.2 and Section 5.5.3 . Default Data applies and a daily Gate Open event takes place which converts Default Data to Trading Day data (i.e. always ensures data for these datasets is available). The process for Default Data conversion is further set out in Section 5.3.4.1. Once converted, data for these datasets can be superseded by any updated submission of data for the corresponding Trading Day, or for a defined set of Trading Windows for the Trading Day, as outlined in Table 30.

5.3.4.1 STANDING (DEFAULT) DATA

Standing Data (also called Default Data) is converted to Trading Day Data at the time of Gate Window opening. This conversion process populates the operational "Complex COD" data with the

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[15] All times in this table are in "Local Time"
[16] All times in this table are in "Local Time"

Standing Data for the Trading Day that is 19 days in the future. Participants can update these values until the Gate Window closes (timings specified above). The following notes apply to Standing Data:

- Standing Data can be created at any time.
- As part of Unit Registration, one set of data is entered by the Participant with a parameter of "ALL" (i.e. valid for all days). There is no expiration date for type "ALL", as Default Data (see below) is always required for use by the I-SEM Systems.
- Standing Data applies to the following data only:
  - Complex Commercial Offer Data; and
  - Forecast Availability, Forecast Minimum Stable Generation and Forecast Minimum Output.
- After Communication Channel Qualification – i.e. once access to the system is granted, Participants must update the Standing Data (type "ALL").
- Participants may also submit Standing Data for specific day types (SUN, MON, ..., SAT). These have an optional expiration date.
- If an expiration date is used, the data will be used daily and up until the expiration date (inclusive).
- If no expiration date is given, the data will be used indefinitely, or until the Participant supersedes the specific day type data.
- Updated Standing Data will be used in the next Gate Window opening (i.e. will be used for Trading Days that are at least 19 days in the future).
- During each Gate Window opening, if there is Standing Data for both "specific day type" and "ALL", the system will use the "specific day type" rather than the "ALL" type.

5.3.4.2 TRADING WINDOW DATA

Standing Data will be converted to Trading Window Data at Gate Window opening (and must always be present for type "ALL"). Any subsequent data submission in the Gate Window (i.e. whilst the Gate Window is open) will supersede the Trading Window Data, if it passes validations. The communication mechanism during data submission is synchronous, that is the Participant submits the data and waits for the response from the Web Server.

For each Unit, the use of Trading Day Data, pre-populated by Standing Data, ensures that there is always valid (or Default) data for the following:

- Complex Commercial Offer Data; and
- Forecast Availability, Forecast Minimum Stable Generation and Forecast Minimum Output.

Participants have the ability to revise Trading Day Data as many times as necessary within the appropriate Gate Window. Trading Day Data submissions will be validated and processed upon receipt, and the Participant will be informed of the results of validation and processing synchronously.

5.4 MESSAGE VALIDATION AND SAMPLE XML

In the following sections, the validation applicable to each message type and the corresponding response messages are specified. Also included are sample XML files of Submit and Query submissions.

Notes:

1. *In the Validation Message column, variables to be included in the message are represented by {0}, {1}, {2}, etc.*

2. *The last two columns of the tables within this section indicate whether the field is relevant for a Submission or Query and, if relevant, whether the field is mandatory, optional or not applicable.*

5.5   COMMERCIAL OFFER DATA

Generator Offers and Demand Offers (i.e. offers for Demand Side Units) in the I-SEM may comprise the following transactions:

- "Simple" Commercial Offer Data, which is comprised of:
    o   Up to 10 Incremental price/quantity pairs; and
    o   Up to 10 Decremental price/quantity pairs.
- "Complex" Commercial Offer Data, which is comprised of:
    o   Up to 10 Incremental price/quantity pairs;
    o   Up to 10 Decremental price/quantity pairs;
    o   Up to three start-up costs (hot, warm, cold) for Generators or one shut-down cost for Demand Side Units; and
    o   No Load Cost for Generator Units.
- Forecast Availability, Minimum Stable Generation and Minimum Output profiles; and
- Specific parameters for Pumped Storage Units, Battery Storage Units and Energy Limited Units (i.e. not applicable for any other type of Unit).

5.5.1   SIMPLE COMMERCIAL OFFER DATA

"Simple" Commercial Offer Data is primarily used by the Transmission System Operator to determine actions / dispatch instructions (e.g. Generator/Demand Side Unit commitment and/or output changes) which occur once the Gate Window has closed (e.g. one hour ahead of each Trading Period). "Simple" Commercial Offer Data may be submitted for any subset of Trading Periods within a given Trading Window.

Note: where "simple" Commercial Offer Data is required and has not been submitted, the Inc/Dec elements of the Complex Commercial Offer Data will be used as the "simple" Commercial Offer Data.

5.5.2   COMPLEX COMMERCIAL OFFER DATA

"Complex" Commercial Offer Data is used to determine TSO actions / dispatch instructions which occur prior to the Gate Window closure for a given Trading Window. "Complex" Commercial Offer Data may be submitted at any time up to the Gate Window closure time for a Trading Window, but will apply in all Operational Schedule Runs for the entire Optimisation Time Horizon containing the Trading Window.

Complex offers (i.e. Complex Commercial Offer Data) are initially created by the conversion of standing bids at the opening of the relevant Gate Window (e.g. 12:00 on the day, 19 days prior to the start or the relevant Imbalance Settlement Period).

5.5.3   FORECAST AVAILABILITY DATA

Forecasts of availability (at an Imbalance Settlement Period) granularity are required for Generator Units and Demand Side Units, containing:

- Forecast Availability;
- Forecast Minimum Stable Generation; and
- Forecast Minimum Output.

5.5.4 UNIT-SPECIFIC PARAMETERS

As part of Generator Offers, various Unit-Specific parameters (specified below) may be submitted for Pumped Storage Units, Battery Storage Units and Energy Limited Units.

5.5.5 GENERATOR OFFERS

5.5.5.1 GENERATOR OFFERS - METHODS

Element	Requirement
market_submit	Mandatory if submit request
market_query	Mandatory if query request

Table 31: Generator Offers – Methods

5.5.5.2 GENERATOR OFFERS - DATA ELEMENTS AND VALIDATIONS

Name	Validation	Validation Message	Hard / Soft	Submission	Query
market_submit Element					
participant_name	The "participant_name" attribute is mandatory and the Participant should be registered in the I-SEM. It should not be more than 12 characters.	The user_name {0} for participant_name {1} does not have system access privileges to participate in Market Trading for trading_date {2}.	H	Mandatory	Mandatory
sem_gen_offer Element (mandatory)					
trading_date, standing_flag	When the standing flag is false, the Trading Window must be open.	Market Window for normal bid is not open for trading_date {0} and application_type {1}	H	Mandatory	Optional
	When the standing flag is false, the status of the trading_date gate must be set to "Open".	An error occurred when fetching data from the cm_market table for trading_date {0}	H	Mandatory	Not Applicable
	When the standing_flag is false, the trading date must be for past 7 days, current date and future 19 days.	The trading_date {0} is invalid. It must fall within the past {1} days and future {2} days		Not Applicable	Mandatory
	When the standing flag is true and day type is SUN, MON, TUE, WED, THU, FRI or SAT, the valid trade_date must be greater than or equal to the max(market_date with current state as "OPEN") + 1 day.	Invalid trading_date {0}. The trading_date must be greater than or equal to {1} for standing bid with day type as {2}	H	Mandatory	Not Applicable
	When the standing flag is true and day type is ALL: For an existing standing bid, the valid trade_date must be equal to the max (market_date with current state as "OPEN") + 1 day. For a new standing bid, the valid trade_date must be greater than or equal to max(market_date with current state as "OPEN") + 1 day.	No record in cm_market table	H	Mandatory	Not Applicable
		Invalid trading_date {0}. The trading_date must be equal to {1} for an existing standing bid with day type as ALL. Please contact a Market Operator for clarification and assistance			
		Invalid trading_date {0}. The trading_date must be greater than or equal to {1} for an new standing bid with day type as ALL			
standing_flag, standing	If the Standing Flag is equal to true, Standing must exist.	Standing Element must be present when standing_flag is set to true	H	Mandatory	Not Applicable

Name	Validation	Validation Message	Hard / Soft	Submission	Query
	If the standing element is present, the standing flag must be true.	The standing_flag must be set to true when Standing Element is present	H	Mandatory	Mandatory
resource_name	Must be valid Resource and belong to the Participant.	The resource name {0} is invalid	H	Mandatory	Optional
version_number	Must be "1.0"		H	Mandatory	Mandatory
Standing Element (mandatory if standing_flag=true) (only applicable for Forecast and Complex COD)					
expiry_date	YYYY-MM-DD			Optional	Not Applicable
	Must be in the future.	The expiry_date {0} must be in the future			
	Must be greater than or equal to the Trading Date.	The expiry_date {0} must be greater than or equal to trading_date {1}			
	Only applicable if the day type is SUN, MON, TUE, WED, THU, FRI or SAT.				
	Not required when DAY_TYPE is "ALL".	The expiry_date attribute must not present when day type is ALL		Not Applicable	
day_type	If STANDING_FLAG is TRUE then must be MON, TUE, WED, THU, FRI, SAT, SUN or ALL. If a standing bid is in place with DAY_TYPE=ALL, then no other DAY_TYPE bids can be submitted. If there is a standing bid with DAY_TYPE other than "ALL", then no further bid with DAY_TYPE=ALL can be submitted.	Submitted Standing Data with type {0} conflicts with existing Standing Data with type {1} for trading_date {2}		Optional	Optional
Identifier Element (optional)					
external_id	Must be STRING.			Optional	Not Applicable
Fuel Use Flag Element (optional)					
type	If there is a fuel_use element with type attribute value as "SECONDARY", then the unit must be registered as a dual fuel unit	*Message detail to be included later in the implementation phase*		Optional	Not Applicable
start_time	Must be the beginning of a Trading Period e.g. Must be of form '2016-10-31T13:30:00'	*Message detail to be included later in the implementation phase*		Optional	Not Applicable
end_time	Must be the end of a Trading Period (inclusive), e.g. Must be of form '2016-10-31T13:30:00'	*Message detail to be included later in the implementation phase*		Optional	Not Applicable
Forecast Element (optional submission in Generator Offer, mandatory if standing_flag is "true") The following Generator Units need to provide Forecast Availability, Forecast Minimum Stable Generation and Forecast Minimum Output: • Dispatchable Generator Units; • Dual Rated Generator Units; • Pumped Storage Units; • Battery Storage Units; • Dispatchable Priority Dispatch Units; • Non-Priority Dispatch Renewable Units; • Energy Limited Units; and • Zero Cost Dispatchable Units For all Forecast submissions (Maximum Availability, Minimum Stable Generation and Minimum Output), header includes an identifier of the Trading Day to which the submission relates. The forecast details are a part of the gen_detail element					
Gen_detail Element: start_time	Must be the beginning of a Trading Period e.g. Must be of form '2016-10-31T13:30:00'	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
Gen_detail Element: end_time	Must be the end of a Trading Period (inclusive), e.g. Must be of form '2016-10-31T13:30:00'	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable

Name	Validation	Validation Message	Hard / Soft	Submission	Query
Forecast Element	The forecast must comprise the next open Trading Window to the end of the Trading Day +1.	*Message detail to be included later in the implementation phase*	H	Optional	Optional
	Must not contain start / end time outside the Trading Window	*Message detail to be included later in the implementation phase*	H	Optional	Optional
Start time of Forecast element	Start_time must be the start of the earliest Trading Period on the Trading_Date in the header for which the ex-ante market (either the DAM or IDM) is open (which for a submission in advance, will be the start of the Trading Day)	Message detail to be included later in the implementation phase	H	Optional	Optional
End_time of Forecast element	End_time must be the later of: i. end of the trading_date in the header; and ii. end of the trading_date for which the DAM has closed	Message detail to be included later in the implementation phase	H	Optional	Optional
maximum_mw	Must be >=0.	The {0} value of {1} MWh must be greater than or equal to 0 MWh from start_time {2} to end_time {3}	H	Mandatory	Not Applicable
	MAXIMUM_MW>=MINIMUM_MW.	The maximum_mw value of {0} must be greater than or equal to the minimum_mw value of {1} from start_time {2} to end_time {3}	H		
minimum_mw	Must be >=0.	The {0} value of {1} MWh must be greater than or equal to 0 MWh from start_time {2} to end_time {3}	H	Mandatory	Not Applicable
	MINIMUM_MW<=MAXIMUM_MW.	The minimum_mw value of {0} must be less than or equal to the maximum_mw value of {1} from start_time {2} to end_time {3}	H		
	Must be 0 for Battery Storage units	*Message detail to be included later in the implementation phase*	H		
minimum_output_mw	Standing flag is true with day type: ALL. Must be = 0 if not Pumped Storage unit or Battery Storage unit. Must be <=0 if Pumped Storage or Battery Storage unit.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
	Standing flag is set to false or standing flag is set to true with day type: SUN, MON, TUE, WED, THU, FRI or SAT. Must be = 0 if not Pumped Storage unit or Battery Storage unit.	*Message detail to be included later in the implementation phase*	H		
	Standing flag is set to false or standing flag is set to true with day type: SUN, MON, TUE, WED, THU, FRI or SAT. Must be <=0 if Pumped Storage or Battery Storage unit.	*Message detail to be included later in the implementation phase*	H		
Pumped Storage Parameters (mandatory if Pumped Storage Unit). This is part of cod_complex_detail element					
pump_storage_detail	When standing flag is set to false or standing flag is set to true with day type: SUN, MON, TUE, WED, THU, FRI, SAT and the unit can operate as a pump, this element must be present. Units with PUMP_STORAGE_FLG value is set to "Y".	The pump_storage_detail element must be present when pump_storage_flag is set to Y	H	Mandatory	Not Applicable

Name	Validation	Validation Message	Hard / Soft	Submission	Query
	Units with PUMP_STORAGE_FLG value is set to "N".	The pump_storage_detail element cannot be submitted when pump_storage_flag is set to N	H		
spin_generation_cost	Cost of moving from Spinning to Generating. Must be present when PUMP_STORAGE_FLG value is set to "Y"		H	Optional	Not Applicable
spin_pump_cost	Cost of moving from Spinning to Pumping. Must be present when PUMP_STORAGE_FLG value is set to "Y"		H	Optional	Not Applicable
Battery Storage Parameters (mandatory for Battery Storage Units). This is part of cod_complex_detail element					
operational_maximum _storage	Must be between 0 and 99999.999	*Message detail to be included later in the implementation phase*	H	Optional	Not applicable
	If value is not submitted, registered maximum storage quantity value[17] for unit will be used instead of this element.	*Message detail to be included later in the implementation phase*	H	Optional	Not applicable
	Must be between and inclusive of registered minimum storage quantity and maximum storage quantity	*Message detail to be included later in the implementation phase*	H	Optional	Not applicable
operational_minimum _storage	Must be between 0 and 99999.999	*Message detail to be included later in the implementation phase*	H	Optional	Not applicable
	If value is not submitted, registered minimum storage quantity value[18] for unit will be used instead of this element.	*Message detail to be included later in the implementation phase*	H	Optional	Not applicable
	Must be between and inclusive of registered minimum storage quantity and maximum storage quantity	*Message detail to be included later in the implementation phase*	H	Optional	Not applicable
	Must be less than or equal to operational maximum storage quantity	*Message detail to be included later in the implementation phase*	H	Optional	Not applicable
Energy Limit Parameters (mandatory if Energy Limited)[19]. This is a part of cod_complex_detail element					
limit_mwh	Must be between 999999.99 and -999999.99.			Mandatory	Not Applicable
COD detail (optional), with type parameter "SIMPLE or "COMPLEX" • The cod_detail element allows submission of 'simple' and 'complex' Commercial Offer Data (including separate Inc and Dec curves), which is separately treated in the Balancing Market Systems. • The cod_simple_details allows submission of 'simple' Commercial Offer Data which has separate Inc and Dec Curves. This element allows submission of multiple simple offers for the same trading day. 'simple' and 'complex' elements may be submitted in the same transaction. Simple' Data - If Incs/Decs are not submitted for a particular Trading Period, the system will use the corresponding Incs/Decs from their 'Complex' offers				
inc_curve_detail element - Can contain up 10 price/quantity pairs. This element will be required for Dispatchable Generator Units.					
quantity	• Must be monotonically non-decreasing	The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}.	H	Mandatory	Not applicable

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[17] Registered maximum storage quantity data element is detailed in section 4.6.15, Resource: Balancing Market Data.

[18] Registered minimum storage quantity data element is detailed in section 4.6.15, Resource: Balancing Market Data.

[19] As in the previous market (SEM), energy limits must be submitted to cover the entire Trading Day (see Trading and Settlement Code, clause I.3D). As a result, Energy Limit start and stop times have been removed for I-SEM. The Energy Limit Factor is relevant for the SEM as it is used to calculate the portion of the Energy Limit that applies in the Ending Overlap Optimisation Period. As the Ending Overlap Optimisation Period concept is not relevant for I-SEM, it is not required in submissions.

Name	Validation	Validation Message	Hard / Soft	Submission	Query
price	• Inc price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply) • Inc prices can be negative or positive (inc zero) • Prices from Price(0) to Price(9) must be monotonically non-decreasing • Prices may not exceed Price Cap. • Prices may not fall below Price Floor.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not applicable
dec_curve_detail element - Can contain up 10 price/quantity pairs. This element will be required for: Dispatchable Generator Units. For Energy Limited and Zero Cost Dispatchable Units, price/quantity must be zero.					
quantity	• Must be monotonically non-decreasing	The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}.	H	Mandatory	Not applicable
price	• Dec price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply) • Dec prices can be negative or positive (inc zero) • Dec prices cannot exceed Incremental prices for overlapping Quantity bands, they may be equal or less • Prices must be monotonically non-decreasing • Prices may not exceed Price Cap. • Prices may not fall below Price Floor.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not applicable
startup_cost element, must be submitted if type parameter for cod_detail is "COMPLEX"					
startup_cost_hot, startup_cost_warm, startup_cost_cold	Start-up costs for cold, warm or hot states.				
	Must only be supplied for: • Dispatchable Generator Units (excluding zero cost Dispatchable Units) • Non-Priority Dispatch Renewable Units	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
	At least one (1) and up to three (3) values must be provided.	Start-up costs for cold, warm or hot states. At least one and up to three values must be provided	H		
	If these values are provided, they must be positive.	The {0} value of {1} {2} must be greater than or equal to 0 {3}	H		
	If these values are provided, STARTUP_COST_COLD >= STARTUP_COST_WARM >= STARTUP_COST_HOT	The {0} start-up costs must be greater than or equal to {1} start-up costs	H		
startup_cost_hot	At least one and up to three values.	Start-up costs for cold, warm or hot states. At least one and up to three values must be provided	H	Optional	Not Applicable
	All>=0.	The {0} value of {1} MWh must be greater than or equal to 0 MWh	H		
	COLD>=WARM>=HOT.	The {0} start-up costs must be greater than or equal to {1} start-up costs	H		
	The value for hot, warm and cold start up costs must be equal to 0 if the unit is a Non-Priority Dispatch Renewable, Pumped Storage or Battery Storage.	The hot startup_cost value of {0} {1} must be equal to 0 when the unit is Pumped Storage, Battery Storage or Non-Priority Dispatch Renewable	H		

Name	Validation	Validation Message	Hard / Soft	Submission	Query
startup_cost_warm	At least one and up to three values.	Start-up costs for cold, warm or hot states. At least one and up to three values must be provided	H	Optional	Not Applicable
	All>=0.	The {0} value of {1} MWh must be greater than or equal to 0 MWh	H		
	COLD>=WARM>=HOT.	The {0} start-up costs must be greater than or equal to {1} start-up costs	H		
	The value for hot, warm and cold start up costs must be equal to 0 if the unit is a Non-Priority Dispatch Renewable, Pumped Storage or Battery Storage.	The warm startup_cost value of {0} {1} must be equal to 0 when the unit is Pumped Storage, Battery Storage or Non-Priority Dispatch Renewable	H		
startup_cost_cold	At least one and up to three values.	Start-up costs for cold, warm or hot states. At least one and up to three values must be provided	H	Mandatory	Not Applicable
	All>=0.	The {0} value of {1} MWh must be greater than or equal to 0 MWh	H		
	COLD>=WARM>=HOT.	The {0} start-up costs must be greater than or equal to {1} start-up costs	H		
	The value for hot, warm and cold start up costs must be equal to 0 if the unit is a Non-Priority Dispatch Renewable, Pumped Storage or Battery Storage.	The hot startup_cost value of {0} {1} must be equal to 0 when the unit is Pumped Storage, Battery Storage or Non-Priority Dispatch Renewable	H		
no_load_cost	Must only be submitted if type parameter for cod_detail is "COMPLEX". Must only be supplied for: • Dispatchable Generator Units (excluding zero cost Dispactable Units) • Dual Rated Generator Units • Pumped Storage Units • Battery Storage Units • Energy Limited Units • Non-Priority Dispatch Renewable Units		H	Mandatory	Not Applicable
	Must be >=0.	The {0} value of {1} {2} must be greater than or equal to 0 {3}			
	The value for no load cost must be equal to 0 if the unit is a Non-Priority Dispatch Renewable, Pumped Storage or Battery Storage.	The no_load_cost value of {0} {1} must be equal to 0 when the unit is Pumped Storage, Battery Storage or Non-Priority Dispatch Renewable			

Table 32: Generator Offers - Data Elements and Validations

5.5.5.3 GENERATOR OFFERS - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_submit
      application_type="BM"
      trading_date="2016-06-01"
      participant_name="PART_NAME"
      user_name="PART_USER_NAME"
      mode="NORMAL">

    <!-- standing_flag attrubute default set to false -->
    <sem_gen_offer
        resource_name="RES_NAME1"
        standing_flag="false"
        version_no="1.0">

      <!-- standing_flag attrubute set to true for Standing submission -->
      <!-- If standing_flag attrubute set to true,  standing element must be present -->
      <!--
        <standing expiry_date="2017-12-31" day_type="ALL"/>
      -->

      <!-- identifier - optional element -->
      <identifier external_id="EXTERNAL_ID_STRING"/>

      <!-- fuel_use - optional element -->
      <fuel_use
          start_time="2016-06-01T00:00:00"
          end_time="2016-06-01T23:30:00"
          type="SECONDARY"/>

      <!-- forecast - required element -->
      <forecast
          start_time="2016-06-01T00:00:00"
          end_time="2016-06-01T23:30:00"
          maximum_mw="50.245"
          minimum_mw="10.234"
          minimum_output_mw="5.234"/>
```

```xml
        <!-- pump_storage_detail - optional element -->
        <pump_storage_detail
            spin_generation_cost="1200.34"
            spin_pump_cost="1100.24"/>

        <!-- energy_limit_detail - optional element -->
        <energy_limit_detail
            start_time="2016-06-01T00:00:00"
            end_time="2016-06-01T23:30:00"
            limit_mwh="200.45"
            limit_factor="0"/>

        <!-- cod_detail, type can be SIMPLE or COMPLEX -->
        <!-- inc_curve_detail and dec_curve_detail can contain up 10 Price Quantity Pairs -->
        <cod_detail type="SIMPLE">
          <inc_curve_detail>
            <point price="10.00" quantity="0"/>
            <point price="11.60" quantity="12"/>
            <point price="19.00" quantity="14"/>
            <point price="24.50" quantity="19"/>
          </inc_curve_detail>
          <dec_curve_detail>
            <point price="10.00" quantity="0"/>
            <point price="11.60" quantity="12"/>
            <point price="19.00" quantity="14"/>
            <point price="24.50" quantity="19"/>
          </dec_curve_detail>
        </cod_detail>

        <cod_detail type="COMPLEX">
          <inc_curve_detail>
            <point price="10.00" quantity="0"/>
            <point price="11.60" quantity="12"/>
            <point price="19.00" quantity="14"/>
            <point price="24.50" quantity="19"/>
          </inc_curve_detail>
          <dec_curve_detail>
            <point price="10.00" quantity="0"/>
            <point price="11.60" quantity="12"/>
            <point price="19.00" quantity="14"/>
            <point price="24.50" quantity="19"/>
          </dec_curve_detail>
        </cod_detail>

        <!-- startup_cost and no_load_cost only for COMPLEX type of cod_detail  -->
        <startup_cost hot="100.24"
                      warm="200.34"
                      cold="503.75"/>
        <no_load_cost value="239.56"/>

    </sem_gen_offer>
  </market_submit>
</bids_offers>
```

Figure 55: Sample XML - Generator Offer Submission

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">
  <market_query
      application_type="BM"
      trading_date="2016-06-01"
      participant_name="PART_NAME"
      user_name="PART_USER_NAME"
      mode="NORMAL">

    <!-- If no "resource_name" chosen, then give all resources -->
    <sem_gen_offer
        resource_name="RES_NAME1"
        standing_flag="false"
        version_no="1.0">
    </sem_gen_offer>
  </market_query>
</bids_offers>
```

Figure 56: Sample XML - Generator Offer Query

5.5.5.4 GENERATOR OFFERS (BATTERY STORAGE) - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_submit
    application_type="BM"
    trading_date="2023-11-29"
    participant_name="PART_NAME"
    user_name="PART_USER_NAME"
    mode="NORMAL">

    <!-- standing_flag attribute default set to false -->
    <sem_gen_offer
      resource_name="RES_NAME1"
      standing_flag="false"
      version_no="1.0">

      <!-- identifier - optional element -->
      <identifier external_id="EXTERNAL_ID_STRING"/>

      <cod_complex_detail>

        <!-- inc_curve_detail and dec_curve_detail can contain up to 10 Price Quantity Pairs -->
        <inc_curve_detail>
          <point price="10.00" quantity="0"/>
          <point price="11.60" quantity="12"/>
          <point price="19.00" quantity="14"/>
          <point price="24.50" quantity="19"/>
        </inc_curve_detail>

        <dec_curve_detail>
          <point price="10.00" quantity="0"/>
          <point price="11.60" quantity="12"/>
          <point price="19.00" quantity="14"/>
          <point price="24.50" quantity="19"/>
        </dec_curve_detail>
```

```
<!-- startup_cost and no_load_cost - optional elements applicable only for complex type-->
<startup_cost
   hot="0"
   warm="0"
   cold="0"/>

<no_load_cost
   value="0"/>

<energy_power_detail
      operational_minimum_storage="22.999"
      operational_maximum_storage="1.243"/>

</cod_complex_detail>

<gen_detail
   start_time="2023-11-28T23:00:00"
   end_time="2023-11-29T23:00:00">

<fuel_use type="PRIMARY"/>
<forecast
   maximum_mw="20.114"
   minimum_mw="0"
   minimum_output_mw="0"/>
</gen_detail>

</sem_gen_offer>

</market_submit>

</bids_offers>
```

Figure 57 - Sample XML (Battery Storage) - Generator Offer Submission

5.5.6   DEMAND OFFERS

This section relates to Commercial Offer Data for Demand Side Units.

5.5.6.1   DEMAND OFFERS - METHODS

Element	Requirement
market_submit	Mandatory if submit request
market_query	Mandatory if query request

Table 33: Demand Offers - Methods

5.5.6.2   DEMAND OFFERS - DATA ELEMENTS AND VALIDATIONS

Name	Validation	Validation Message	Hard / Soft	Submission	Query
market_submit Element					
participant_name	The "participant_name" attribute is mandatory and the Participant should be registered in the I-SEM. It should not be more than 12 characters.	The user_name {0} for participant_name {1} does not have system access privileges to participate in Market Trading for trading_date {2}.	H	Mandatory	Mandatory
sem_demand_offer Element (mandatory)					
trading_date, standing_flag	When the standing flag is false, the Market Window must be open.	Market Window for normal bid is not open for trading_date {0} and application_type {1}	H	Mandatory	Optional
	When the standing flag is false, the status of the trading_date gate must be set to "Open".	An error occurred when fetching data from the cm_market table for trading_date {0}	H	Mandatory	Not Applicable
	When the standing_flag is false, the trading date must be for past 7 days, current date and future 19 days.	The trading_date {0} is invalid. It must fall within the past {1} days and future {2} days		Not Applicable	Mandatory

Name	Validation	Validation Message	Hard / Soft	Submission	Query
	When the standing flag is true and day type is SUN, MON, TUE, WED, THU, FRI or SAT, the valid trade_date must be greater than or equal to the max(market_date with current state as "OPEN") + 1 day.	Invalid trading_date {0}. The trading_date must be greater than or equal to {1} for standing bid with day type as {2}	H	Mandatory	Not Applicable
	When the standing flag is true and day type is ALL: For an existing standing bid, the valid trade_date must be equal to the max (market_date with current state as "OPEN") + 1 day. For a new standing bid, the valid trade_date must be greater than or equal to max(market_date with current state as "OPEN") + 1 day.	No record in cm_market table	H	Mandatory	Not Applicable
		Invalid trading_date {0}. The trading_date must be equal to {1} for an existing standing bid with day type as ALL. Please contact a Market Operator for clarification and assistance			
		Invalid trading_date {0}. The trading_date must be greater than or equal to {1} for an new standing bid with day type as ALL			
standing_flag, standing	If the Standing Flag is equal to true, Standing must exist.	Standing Element must be present when standing_flag is set to true	H	Mandatory	Not Applicable
	If the standing element is present, the standing flag must be true.	The standing_flag must be set to true when Standing Element is present	H	Mandatory	Mandatory
resource_name	Must be valid Resource and belong to the Participant.	The resource name {0} is invalid	H	Mandatory	Optional
			H		
version_number	Must be "1.0"		H	Mandatory	Mandatory
Standing Element (mandatory if standing_flag=true) (only applicable for Forecast and Complex COD)					
expiry_date	YYYY-MM-DD			Optional	Not Applicable
	Must be in the future.	The expiry_date {0} must be in the future			
	Must be greater than or equal to the Trading Date.	The expiry_date {0} must be greater than or equal to trading_date {1}			
	Only applicable if the day type is SUN, MON, TUE, WED, THU, FRI or SAT.				
	Not required when DAY_TYPE is "ALL".	The expiry_date attribute must not present when day type is ALL		Not Applicable	
day_type	If STANDING_FLAG is TRUE then must be MON, TUE, WED, THU, FRI, SAT, SUN or ALL. If a standing bid in place and DAY_TYPE=ALL, then no other DAY_TYPE bids can be submitted. If standing bid with DAY_TYPE not ALL accepted, then no bid with DAY_TYPE=ALL can be submitted.	Submitted Standing Data with type {0} conflicts with existing Standing Data with type {1} for trading_date {2}		Optional	Optional
Identifier Element (optional)					
external_id	Must be STRING.			Optional	Not Applicable
Forecast Element (optional submission in Demand Offer, mandatory if standing_flag is "true") . This is submitted as part of demand_detail element. For all Forecast submissions (Maximum Availability, Minimum Stable Generation and Minimum Output) submissions, header includes an identifier of the Trading Day to which the submission relates.					
Demand_detail Element: start_time	Must be the beginning of a Trading Period e.g. Must be of form '2016-10-31T13:30:00'	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
Demand_detail Element: end_time	Must be the end of a Trading Period (inclusive) e.g. Must be of form '2016-10-31T13:30:00'	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
Forecast Element	The forecast must comprise the next open Balancing Window to the end of the Trading Day +1	*Message detail to be included later in the implementation phase*	H	Optional	Optional
	Must not contain start / end time outside the Trading Window	*Message detail to be included later in the implementation phase*	H	Optional	Optional

Name	Validation	Validation Message	Hard / Soft	Submission	Query
Start time of Forecast element	Start_time must be the start of the earliest Trading Period on the Trading_Date in the header for which the ex-ante market (either the DAM or IDM) is open (which for a submission in advance, will be the start of the Trading Day)	Message detail to be included later in the implementation phase	H	Optional	Optional
End_time of the forecast element	End_time must be the later of: i. end of the trading_date in the header; or ii. end of the trading_date for which the DAM has closed	Message detail to be included later in the implementation phase	H	Optional	Optional
maximum_mw	Must be >=0.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
	MAXIMUM_MW>=MINIMUM_MW.	*Message detail to be included later in the implementation phase*			
minimum_mw	Must be >=0.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
	MAXIMUM_MW>=MINIMUM_MW.	*Message detail to be included later in the implementation phase*	H		
minimum_output_mw	Standing flag is true with day type: ALL. Must be<= 0	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
	Standing flag is set to false or standing flag is set to true with day type: SUN, MON, TUE, WED, THU, FRI or SAT. Must be = 0 if not pumped storage unit.	*Message detail to be included later in the implementation phase*	H		
	Standing flag is set to false or standing flag is set to true with day type: SUN, MON, TUE, WED, THU, FRI or SAT.	*Message detail to be included later in the implementation phase*	H		

COD detail (optional), with type parameter "SIMPLE or "COMPLEX"
The cod_ complex_detail element allows submission of 'complex' Commercial Offer Data (including separate Inc and Dec curves), which is separately treated in the Balancing Market Systems.
The cod_simple_details allows submission of 'simple' Commercial Offer Data which has separate Inc and Dec Curves. This element allows submission of multiple simple offers for the same trading day.
'Simple' and 'complex' elements may be included in the same submission.
Simple' Data - If Incs are not submitted for a particular Trading Day, the system will use the corresponding Incs from their 'Complex' offers

inc_curve_detail element - Can contain up 10 price/quantity pairs. This element will be required for Demand Side Units.

Name	Validation	Validation Message	Hard / Soft	Submission	Query
quantity	• Must be monotonically non-decreasing	The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}.	H	Mandatory	Not applicable
price	• Inc price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply) • Inc prices can be negative or positive (inc zero) • Prices from Price(0) to Price(9) must be monotonically non-decreasing • Prices may not exceed Price Cap. • Prices may not fall below Price Floor.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not applicable

dec_curve_detail element - Can contain up 10 price/quantity pairs. This element will be required for Demand Side Units

Name	Validation	Validation Message	Hard / Soft	Submission	Query
quantity	• Must be monotonically non-decreasing	The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}.	H	Mandatory	Not applicable

Name	Validation	Validation Message	Hard / Soft	Submission	Query
price	• Dec price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply) • Dec prices can be negative or positive (inc zero) • Dec prices cannot exceed Incremental prices for overlapping Quantity bands, they may be equal or less • Prices must be monotonically non-decreasing • Prices may not exceed Price Cap. • Prices may not fall below Price Floor.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
shutdown_cost	Must only be submitted if type parameter for cod_detail is "COMPLEX". Must be >=0.	*Message detail to be included later in the implementation phase*	H	Optional	Not Applicable

Table 34: Demand Offers - Data Elements and Validations

5.5.6.3 DEMAND OFFERS - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">
  <market_submit
      application_type="BM"
      trading_date="2016-06-01"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <!-- standing_flag attrubute default set to false -->
    <sem_demand_offer
        resource_name="RES_NAME2"
        standing_flag="false"
        version_no="1.0">

      <!-- identifier - optional element -->
      <identifier external_id="EXTERNAL_ID_STRING"/>

      <!-- forecast - required element -->
      <forecast
          start_time="2016-06-01T00:00:00"
          end_time="2016-06-01T23:30:00"
          maximum_mw="50.245"
          minimum_mw="10.234"
          minimum_output_mw="5.234"/>


      <!-- cod_detail, type can be SIMPLE or COMPLEX -->
      <!-- inc_curve_detail and dec_curve_detail can contain up 10 Price Quantity Pairs -->
      <cod_detail type="SIMPLE">
        <inc_curve_detail>
          <point price="10.00" quantity="0"/>
          <point price="11.60" quantity="12"/>
          <point price="19.00" quantity="14"/>
          <point price="24.50" quantity="19"/>
        </inc_curve_detail>
        <dec_curve_detail>
          <point price="10.00" quantity="0"/>
          <point price="11.60" quantity="12"/>
          <point price="19.00" quantity="14"/>
          <point price="24.50" quantity="19"/>
        </dec_curve_detail>
      </cod_detail>

      <cod_detail type="COMPLEX">
        <inc_curve_detail>
          <point price="10.00" quantity="0"/>
          <point price="11.60" quantity="12"/>
          <point price="19.00" quantity="14"/>
          <point price="24.50" quantity="19"/>
        </inc_curve_detail>
        <dec_curve_detail>
          <point price="10.00" quantity="0"/>
          <point price="11.60" quantity="12"/>
          <point price="19.00" quantity="14"/>
          <point price="24.50" quantity="19"/>
        </dec_curve_detail>
      </cod_detail>

      <!-- shutdown_cost only for COMPLEX type of cod_detail  -->
      <shutdown_cost value="209.34"/>

    </sem_demand_offer>
  </market_submit>
</bids_offers>
```

Figure 56: Sample XML - Demand Offer Submission

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_query
      application_type="BM"
      trading_date="2016-06-01"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <!-- If no "resource_name" chosen, then give all resources -->
    <sem_demand_offer
        resource_name="RES_NAME1"
        version_no="1.0">
    </sem_demand_offer>

  </market_query>
</bids_offers>
```

Figure 57: Sample XML - Demand Offer Query

5.6 VALIDATION TECHNICAL OFFER DATA (VTOD)

This section covers Validation Technical Offer Data and incorporates the following:
- Application of Default and Trading Day Validation Technical Offer Data;
- VTOD Submission and Approval; and
- VTOD Set Selection.

5.6.1 DEFAULT AND TRADING DAY VALIDATION TECHNICAL OFFER DATA

For Validation Technical Offer Data (VTOD), the same default rules used for Commercial Offer Data are applied, unless otherwise specified in the market rules, in order to ensure that valid data will always be available at Gate Window closure. The VTOD set number one is used as the default VTOD data set. This means that VTOD set number one will be used as Trading Day VTOD, unless another Validated TOD set is chosen to be used on that Trading Day.

- Each Generator Unit and Demand Side Unit can have up to six pre-approved VTOD sets;
- VTOD sets are identified by their respective set numbers (i.e. 1 to 6);
- If Participants do not submit a VTOD set choice for a given Trading Day, the default set (VTOD set number 1) will be used;
- Changes to data within a VTOD set require approval from the Market Operator and the Transmission System Operator (via business process); and
- The latest accepted VTOD set choice will be used at a Gate Window closure which applies for the remainder of the Trading Day.

5.6.2 GENERATOR VTOD SET

The Validation Technical Offer Data (VTOD) consists of operational characteristics for Units dependent on resource type. The system allows Participants to create up to six sets of VTOD for each Unit (numbered 1 to 6). These sets must be approved by the TSO and Market Operator before they become valid.

At any point of time, at least one valid VTOD set has to be in place. Approval of any VTOD set is via a business process.

5.6.2.1 GENERATOR VTOD - METHODS

Element	Requirement
market_submit	Mandatory if submit request
market_query	Mandatory if query request

Table 35: Trading (VTOD), methods and element groups

5.6.2.2 GENERATOR VTOD - DATA ELEMENTS AND VALIDATIONS

Name	Validation	Validation Message	Hard / Soft	Submission	Query
market_submit / market_query element					
date_type	Must be "SUBMISSION".	"Unable to process bid upload request…"	H	Mandatory	Mandatory
sem_gen_technical_offer element					
resource_name, participant_name	Must be valid Resource and belong to the Participant.	The resource name {0} is invalid	H	Mandatory	Optional
set_number	Must be integer between 1 and 6.	Unable to process bid upload request: attribute "set_number" has a bad value: the value is out of the range (maxInclusive specifies 6)	H	Mandatory	Optional
Status	Only applicable to queries. Must be "NON_APPROVED", "APPROVED" or "RECEIVED_OR_PENDING"	Unable to process bid upload request: attribute "status" has a bad value:…		Not Applicable	Mandatory
version_number	Must be "1.0"		H	Mandatory	Mandatory
identifier element (optional)					
Identifier	external_id value is free text.			Optional	Optional
block_loading element					
Flag	Valid values are "true" or "false". Must be "false" for Non-Priority Dispatch Renewable and Battery Storage units	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
Hot	MW Value. Must be a NUMBER between 0 and 99999.999.	Unable to process bid upload request: attribute {1}" has a bad value: the value is out of the range (minInclusive specifies 0)	H	Optional(Mandatory if Flag is True)	Not Applicable
Warm	MW Value. Must be a NUMBER between 0 and 99999.999.		H	Optional(Mandatory if Flag is True)	Not Applicable
Cold	MW Value. Must be a NUMBER between 0 and 99999.999.		H	Optional(Mandatory if Flag is True)	Not Applicable
load_up element					
	3 possible types: type="HOT", type="WARM", type="COLD" (each of which may be submitted).				
	Each type must contain at least 2 points and at most 3 points. Each point attribute contains a rate value and a quantity attribute, except for the first load up point, in which case the quantity attribute must not be submitted. This is because rate 1 always applies from 0MW to the next quantity.				
Rate	MW/min. Value must be between 0 and 99999.999			Optional	Not Applicable
quantity	MW Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable

Name	Validation	Validation Message	Hard / Soft	Submission	Query
deloading element					
	Must contain 2 points. Each point contains a rate attribute and a quantity attribute, except for the first Deloading point, in which case the quantity attribute must not be submitted.				
Rate	MW/min. Value must be between 0 and 99999.999			Optional	Not Applicable
Quantity	MW Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
cooling_boundary element (time taken to move between heat states)					
Hot	Hours. Value must be between 0 and 999.99			Optional	Not Applicable
warm	Hours. Value must be between 0 and 999.99			Optional	Not Applicable
cold	Hours. Value must be between 0 and 999.99. Field is not used.			Optional	Not Applicable
startup_time element					
hot	Hours. Value must be between 0 and 999.99			Optional	Not Applicable
warm	Hours. Value must be between 0 and 999.99			Optional	Not Applicable
cold	Hours. Value must be between 0 and 999.99			Optional	Not Applicable
dwell_time element, type = "UP"					
	Must contain at least 1 point and at most 3 points. Each point must contain a time attribute and a quantity attribute.				
time	Minutes. Value must be between 0 and 999			Optional	Not Applicable
quantity	MW Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
dwell_time element, type = "DOWN"					
	Must contain at least 1 point and at most 3 points. Each point must contain a time attribute and a quantity attribute.				
time	Minutes. Value must be between 0 and 999			Optional	Not Applicable
quantity	MW Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
on_time element					
Max	Hours. Value must be between 0 and 99999999.999			Optional	Not Applicable
Min	Hours. Value must be between 0 and 99999999.999			Optional	Not Applicable
off_time element					
	Contains only 1 attribute: "min"				
Min	Hours. Value must be between 0 and 99999999.999			Optional	Not Applicable
pump_parameters element					
pump_storage_cycle_efficiency[20]	Percentage. Must be a NUMBER between 0 and 100.			Optional	Not Applicable
pumping_load_capacity	MWh Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
off_to_generating	Mins Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
off_to_spin_pump	Mins Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
spin_pump_to_pumping	Mins Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
max_ramp_rate element (only required for Demand Side Units)					
up	MW/min. Value must be between 0 and 99999.999			Optional	Not Applicable
down	MW/min. Value must be between 0 and 99999.999			Optional	Not Applicable

Name	Validation	Validation Message	Hard / Soft	Submission	Query
ramp_rate element					
	2 possible types: type="UP", type="DOWN" (each of which may be submitted)				
	Must contain between 1 and 5 points. Each point contains a rate attribute and a quantity attribute, except for the first point, in which case the quantity attribute must not be submitted. This is because rate 1 always applies from either the registered minimum generation, or minimum stable generation should this be submitted for a non-Battery Storage unit, to the next quantity.				
rate	MW/min. Value must be between 0 and 99999.999			Optional	Not Applicable
quantity	MW Value. Must be a NUMBER between -99999.99 and 99999.999, up to which the associated ramp rate applies.			Optional	Not Applicable
restricted_region element					
	If included, this element must contain at least 1 region and at most 2 regions				
start	MW Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
end	MW Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
soak_time element					
	3 possible types: type="HOT", type="WARM", type="COLD" (each of which may be submitted).				
	Each type must contain between 1 and 2 points. Each point must contain a time attribute and a quantity attribute.				
time	Minutes. Value must be between 0 and 999			Optional	Not Applicable
quantity	MW Value. Must be a NUMBER between 0 and 99999.999			Optional	Not Applicable
short_term_maximization element					
	If included, this element must contain at a time and a quantity attribute.				
time	Minutes. Value must be between 0 and 99999999.999			Optional	Not Applicable
quantity	MW Value. Must be a NUMBER between 0 and 99999.999.			Optional	Not Applicable
minimum_stable_generation element					
quantity	MW Value. Must be a NUMBER between 0 and 99999.999. Must be 0 for Non-Priority Dispatch Renewable and Battery Storage units			Optional (Mandatory for Non-Priority Dispatch Renewable and Battery Storage units)	Not Applicable
energy_parameters element (for Battery Storage units only)					
esps storage_cycle_efficiency	Must be between 0 to 100.0000		H	Mandatory	Not Applicable

Table 36: Trading (VTOD), elements and validations

5.6.2.3 GENERATOR VTOD - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_submit
      application_type="BM"
      date="2016-06-01"
      date_type="SUBMISSION"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <sem_gen_technical_offer
        resource_name="RES_NAME1"
        set_number="1"
        version_no="1.0">

      <!-- identifier - optional element -->
      <identifier external_id="EXTERNAL_ID_STRING"/>

      <block_loading
          flag="true"
          hot="0.0"
          warm="0.0"
          cold="0.0"/>

      <deloading>
        <point rate="0.0"/>
        <point rate="0.0" quantity="0.0"/>
      </deloading>

      <cooling_boundary
          hot="0.0"
          warm="0.0"
          cold="0.0"/>

      <startup_time
          hot="0.0"
          warm="0.0"
          cold="0.0"/>

      <!-- type can be UP or DOOWN -->
      <dwell_time type="UP">
        <point time="0" quantity="0.0"/>
        <point time="0" quantity="0.0"/>
        <point time="0" quantity="0.0"/>
      </dwell_time>
```

```xml
<!-- type can be HOT, WARM or COLD -->
<load_up type="HOT">
  <point rate="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
</load_up>

<load_up type="WARM">
  <point rate="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
</load_up>

<load_up type="COLD">
  <point rate="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
</load_up>

<on_time max="0.0" min="0.0"/>
<off_time min="0.0"/>

<pump_parameters
    pump_storage_cycle_efficiency="0.0"
    pumping_load_capacity="0.0"
    off_to_generating="839.123"
    off_to_spin_pump="376.341"
    spin_pump_to_pumping="328.234"/>

<max_ramp_rate up="0.0" down="0.0"/>

<!-- type can be UP or DOOWN -->
<ramp_rate type="UP">
  <point rate="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
</ramp_rate>

<ramp_rate type="DOWN">
  <point rate="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
  <point rate="0.0" quantity="0.0"/>
</ramp_rate>
```

```xml
  <restricted_regions>
    <region start="0.0" end="0.0"/>
    <region start="0.0" end="0.0"/>
  </restricted_regions>

  <!-- type can be HOT, WARM or COLD -->
  <soak_time type="HOT">
    <point time="0" quantity="0.0"/>
    <point time="0" quantity="0.0"/>
  </soak_time>

  <soak_time type="WARM">
    <point time="0" quantity="0.0"/>
    <point time="0" quantity="0.0"/>
  </soak_time>

  <soak_time type="COLD">
    <point time="0" quantity="0.0"/>
    <point time="0" quantity="0.0"/>
  </soak_time>

  <short_term_maximization time="0" quantity="0.0"/>
  <minimum_stable_generation quantity="0.0"/>

  </sem_gen_technical_offer>

  </market_submit>
</bids_offers>
```

Figure 58: Sample XML: Generator VTOD submission

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_query
      application_type="BM"
      date="2016-06-01"
      date_type="SUBMISSION"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

  <!-- If no "resource_name" chosen, then give all resources -->
  <!-- If no "set_number" chosen, then give all sets (1-6) -->
  <!-- "status" is mandatory, should be either "NON_APPROVED" or "APPROVED"-->
  <sem_gen_technical_offer
      resource_name="RES_NAME1"
      set_number="1"
      status="NON_APPROVED"
      version_no="1.0"/>
  </market_query>
</bids_offers>
```

Figure 61: Sample XML - Generator VTOD query

5.6.2.4 GENERATOR VTOD (BATTERY STORAGE) - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_submit
      application_type="BM"
      date="2023-11-30"
      date_type="SUBMISSION"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <sem_gen_technical_offer
        resource_name="RES_NAME1"
        set_number="1"
        version_no="1.0">

      <!-- identifier - optional element -->
      <identifier external_id="EXTERNAL_ID_STRING"/>

      <block_loading
          flag="false"/>

      <minimum_stable_generation quantity="0.0"/>

      <energy_parameters
          esps_storage_cycle_efficiency="99.1234"/>

    </sem_gen_technical_offer>

  </market_submit>
</bids_offers>
```

Figure 62 - Sample XML: Generator VTOD (Battery Storage) submission

5.6.3 DEMAND VTOD SET

The Validation Technical Offer Data (VTOD) for Demand Side Units consists of specific operational characteristics for Demand Side Units. The system allows Participants to create up to six sets of VTOD for each Unit (numbered 1 to 6). These sets must be approved by TSO and Market Operator before they become valid.

At any point of time, at least one valid VTOD set has to be in place. The process for approval of a new VTOD set, or a change to an existing VTOD set, is largely a manual process. The current process for the SEM will persist for the I-SEM.

5.6.3.1 DEMAND VTOD - METHODS

Element	Requirement
market_submit	Mandatory if submit request
market_query	Mandatory if query request

Table 37: Trading (Demand VTOD), methods and element groups

5.6.3.2 DEMAND VTOD - DATA ELEMENTS AND VALIDATIONS

Name	Validation	Validation Message	Hard / Soft	Submission	Query
market_submit / market_query element					
date_type	Must be "SUBMISSION".	Unable to process bid upload request…	H	Mandatory	Mandatory
sem_demand_technical_offer element					
resource_name	Must be valid Resource and belong to the Participant.	The resource name {0} is invalid	H	Mandatory	Optional
set_number	Must be integer between 1 and 6.	Unable to process bid upload request: attribute "set_number" has a bad value: the value is out of the range (maxInclusive specifies 6)	H	Mandatory	Optional
status	Only applicable to queries. Must be either "NON_APPROVED", "APPROVED" or "RECEIVED_OR_PENDING"	Unable to process bid upload request: attribute "status" has a bad value:…		Not Applicable	Mandatory
version_number	Must be "1.0"		H	Mandatory	Mandatory
identifier element (optional)					
identifier	external_id value is free text.			Optional	Optional
max_ramp_rate element					
Optional element. 2 possible attributes: "UP" or "DOWN"				Optional	Not Applicable
up	MW/min. Value must be between 0 and 99999.999				
down	MW/min. Value must be between 0 and 99999.999				
down_time element					
Optional element. 2 possible attributes: type="MIN", type="MAX"					
min	Hours. Value must be between 0 and 99999999.999			Optional	Not Applicable
max	Hours. Value must be between 0 and 99999999.999			Optional	Not Applicable

Table 38: Trading (Demand VTOD), elements and validations

5.6.3.3 DEMAND VTOD - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_submit
      application_type="BM"
      date="2016-06-01"
      date_type="SUBMISSION"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <sem_demand_technical_offer
        resource_name="RES_NAME1"
        set_number="1"
        version_no="1.0">

        <!-- identifier - optional element -->
        <identifier
            external_id="EXTERNAL_ID_STRING"/>

        <max_ramp_rate up="0.0" down="0.0"/>
        <down_time min="0.0" max="0.0"/>
    </sem_demand_technical_offer>

  </market_submit>
</bids_offers>
```

Figure 59: Sample XML - VTOD submission

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_query
      application_type="BM"
      date="2016-06-01"
      date_type="SUBMISSION"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <!-- If no "resource_name" chosen, then give all resources -->
    <!-- If no "set_number" chosen, then give all sets (1-6) -->
    <!-- "status" is mandatory, should be either "NON_APPROVED" or "APPROVED"
         or "RECEIVED_OR_PENDING".
    -->
    <sem_demand_technical_offer
        resource_name="RES_NAME1"
        set_number="1"
        status="APPROVED"
        version_no="1.0"/>

  </market_query>
</bids_offers>
```

Figure 60: Sample XML - VTOD query

5.6.4   VTOD SET CHOICE

For each Trading Day, the Participant has a choice of one of the valid 6 VTOD sets to be applied for that Trading Day and can be submitted in accordance with *Table 29*. Participants may query which VTOD set applies for a selected Trading Day at any given point.

5.6.4.1   VTOD SET CHOICE - METHODS

Element	Requirement
market_submit	Mandatory if submit request
market_query	Mandatory if query request

Table 39: Trading (VTOD Choice), methods

5.6.4.2 VTOD SET CHOICE - DATA ELEMENTS & VALIDATIONS

Name	Validation	Hard / Soft	Validation Message	Submission	Query
sem_technical_offer_choice element					
resource_name	Must be valid Resource and belong to the Participant.	H	The resource name {0} is invalid	Mandatory	Optional
set_number	Must be integer between 1 and 6.	H	Unable to process bid upload request: attribute "set_number" has a bad value: the value is out of the range (maxInclusive specifies 6)	Mandatory	Optional
	Selected set number must exist and be approved	H	*Message detail to be included later in the implementation phase*	Mandatory	Optional
version_number	Must be 1.0			Mandatory	Mandatory
identifier element (optional)					
identifier	external_id value is free text.			Optional	Not Applicable

Table 40: Trading (VTOD Choice), elements and validations

5.6.4.3 VTOD SET CHOICE - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_submit
      application_type="BM"
      trading_date="2016-06-01"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <sem_technical_offer_choice
        resource_name="RES_NAME1"
        set_number="1"
        version_no="1.0">

      <!-- identifier - optional element -->
      <identifier external_id="EXTERNAL_ID_STRING"/>

    </sem_technical_offer_choice>

  </market_submit>
</bids_offers>
```

Figure 61: Sample XML - VTOD set selection submission

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">
  <market_query
      application_type="BM"
      trading_date="2016-06-01"
      participant_name="PART_NAME"
      user_name="MAIN_USER"
      mode="NORMAL">

    <!-- Returns which "set_number" is effective for the "trading_date" -->
    <!-- If no "resource_name" chosen, then gives "set_number" for all resources -->
    <sem_technical_offer_choice
        resource_name="RES_NAME1"
        version_no="1.0"/>
  </market_query>
</bids_offers>
```

Figure 62: Sample XML - VTOD set selection query

5.7   PHYSICAL NOTIFICATIONS (PN)

Physical Notifications (PNs) are submitted by Participants at any point up to the Balancing Market Gate Closure for the associated Imbalance Settlement Period. PNs are submitted in either A01 or A04 curve type, formats, available from the www.ENTSOE.eu website, depending on the type of unit as set out below.

PN data submissions define a stepwise (A01) linear profile or piecewise (A04) linear profile versus time consisting of a set of segments where the ordinate is the MW level. Each dataset submitted will form a continuous curve for the minimum timeframe required; that is, except for the first and last segment, for every "Time From" in a record there is an equal "Time To" in the previous record. Each date/time value in a PN dataset must be to a one minute resolution (i.e. at the start of a minute).

When submitted, PNs will be validated in the Balancing Market Interface to ensure that the entire set of PNs is feasible according to the relevant Unit's technical characteristics, and that the dataset covers the correct timeframe. The latest validated and approved set of PNs is retrieved by every execution of Operational Schedule Runs.

PN submissions may also contain indicators of periods when a Participant wishes a Unit to be 'Under Test'. When such submissions are received, the PNs are only used in downstream processes (e.g. scheduling) once approved by the TSO.

- When a PN submission containing any Unit Under Test indicator is submitted, the entire submission will be assigned a status of 'Received'. No part of the PN submission will at this stage be active in the I-SEM Systems;
- The Transmission System Operator is notified that a submission has been received and needs to be reviewed and Approved/Denied;
- The Transmission System Operator will then 'Approve' or 'Deny' this as appropriate. Once approved, the entire PN submission will be active in the I-SEM Systems.

5.7.1   PHYSICAL NOTIFICATIONS - METHODS

Element	Requirement
market_submit	Mandatory if submit request.
market_query	Mandatory if query request.

Table 41: Trading (PNs), methods

5.7.2   PHYSICAL NOTIFICATIONS - DATA ELEMENTS AND VALIDATIONS

Name	Validation	Validation Message	Hard/Soft	Submission	Query
sem_pn_submit Element					
curve_type	Must be 'A01' or 'A04'	*Message detail to be included later in the implementation phase*	H	Mandatory	Not Applicable
	If 'A01' format, must be one of: a) AOLR Unit b) Supplier Unit c) Generator Unit with registered capacity < 10MW d) Demand Side Unit with dispatchable capacity of < 10MW e) Generator Unit that is not Dispatchable (including Non-Priority Dispatch Renewable Unit) Otherwise, curve type 'A04' must be used. Units providing A01 cannot submit A04 and vice versa.	*Message detail to be included later in the implementation phase*	H		
resource_name, participant_name	Must be valid Resource and belong to the Participant and User.	The resource name {0} is invalid	H	Mandatory	Optional
start_time, from_mw	Must be of form 'YYYY-MM-DDTHH24:MI:SS' Time portion should be the start of a minute. Seconds portion of the time should always be '00'.		H	Mandatory	Optional
	Start time must be the start of the earliest Trading Period on the Trading Date in the header for which the ex-ante market (either the DAM or IDM) is open (which for a submission in advance, will be the start of the Trading Day)	*Message detail to be included later in the implementation phase*	H		
	Must be contiguous curve for submitted period	*Message detail to be included later in the implementation phase*	H		
	start_time < end_time	*Message detail to be included later in the implementation phase*	H		
	start_time must be at the start of a minute	*Message detail to be included later in the implementation phase*	H		
from_mw	Must be >=0 for all Generators apart from Pumped Storage and Battery Storage Units. Where the Unit is not a Supplier Unit, From_mw cannot be less than Minimum Generation and cannot be greater than Maximum Generation for the unit (where Minimum Generation is zero for Generator Units that are not Pumped Storage or Battery Storage Units). For DSU From_mw cannot be less than zero and cannot be greater than Dispatchable Capacity.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not applicable

Name	Validation	Validation Message	Hard/Soft	Submission	Query
	For the first PN segment in any submission for A04 curve type, from_mw must be within a defined tolerance (e.g. 0.02MW, inclusive) of the PN value (rounded to 3dp) at the start_time associated with that from_mw, which may be derived (e.g. interpolated) from the latest accepted PN segment covering that time	Message detail to be included later in the implementation phase	H		
	For A04 type, from_mw should equal to_mw of the previous row.(Except for the first row as there would be no previous row). A01 adheres to the block format validation.	*Message detail to be included later in the implementation phase*	H		
end_time, to_mw	Must be of form 'YYYY-MM-DDTHH24:MI:SS'. Time portion should be the start of a minute. Seconds portion of the time should always be '00'	*Message detail to be included later in the implementation phase*	H	Mandatory	Optional
	End_time must be the later of: • end of the trading_date in the header; and • end of the trading_date for which the DAM has recently closed	*Message detail to be included later in the implementation phase*	H		
	Must be contiguous curve for submitted period	*Message detail to be included later in the implementation phase*	H		
	end_time > start_time	*Message detail to be included later in the implementation phase*	H		
	end_time must be at the start of a minute. The seconds portion should always be '00'	*Message detail to be included later in the implementation phase*	H		
to_mw	For A04 type, from_mw should equal to_mw of the previous row. (Except for the last row , as the there will no next row). A01 adheres to the block format validation.	*Message detail to be included later in the implementation phase*	H	Mandatory	Not applicable
	For the last PN segment in any submission for A04 curve type, to_mw must be within a defined tolerance (e.g. 0.02MW, inclusive) of the PN value (rounded to 3dp) at the end_time associated with that to_mw, which may be derived (e.g. interpolated) from the latest accepted PN segment covering that time	Message detail to be included later in the implementation phase	H		

Name	Validation	Validation Message	Hard/Soft	Submission	Query
	Where the Unit is not a Supplier Unit, To_mw cannot be less than Minimum Generation and cannot be greater than Maximum generation for the unit (where Minimum Generation is zero for Generator Units that are not Pumped Storage or Battery Storage Units). For DSU To_mw cannot be less than zero and cannot be greater than Dispatchable Capacity.	*Message detail to be included later in the implementation phase*	H		
under_test_flg	Must be "true" or "false"	*Message detail to be included later in the implementation phase*		Optional	Not Applicable
version_number	Must be 1.0		H	Mandatory	Mandatory
identifier element (optional)					
external_id	Must be STRING			Optional	Not Applicable
Reason element (optional)					
reason	String (120). Must be provided for each PN segment, where under_test_flg="true"	*Message detail to be included later in the implementation phase*		Optional	Not applicable

Table 42: Trading (PNs), elements and validations

5.7.3 PHYSICAL NOTIFICATIONS - SAMPLE XML

Note: samples are indicative only and will be updated during the implementation phase as required.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

  <market_submit
      application_type="BM"
      trading_date="2016-06-01"
      participant_name="PART_NAME"
      user_name="PART_USER_NAME"
      mode="NORMAL">

    <sem_pn_submit
        resource_name="RES_NAME2"
        curve_type="A01"
        start_time="2016-06-01T00:00:00"
        from_mw="30.23"
        end_time="2016-06-01T23:30:00"
        to_mw="30.23"
        under_test_flag="true"
        version_no="1.0">

      <!-- identifier - optional element -->
      <identifier external_id="EXTERNAL_ID_STRING"/>

      <reason>reason for submission</reason>
    </sem_pn_submit>
  </market_submit>
</bids_offers>
```

Figure 63: Sample XML - PN submission

```
<bids_offers xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="mi-market-isem.xsd">

    <market_query
        application_type="BM"
        trading_date="2016-06-01"
        participant_name="PART_NAME"
        user_name="PART_USER_NAME"
        mode="NORMAL">

        <!-- If no "resource_name" chosen, then give all resources -->
        <sem_pn_submit
            resource_name="RES_NAME2"
            version_no="1.0">
        </sem_pn_submit>


    </market_query>

</bids_offers>
```

Figure 64: Sample XML - PN query

5.8 SETTLEMENT REALLOCATION AGREEMENTS

5.8.1 SRA OVERVIEW

A Settlement Reallocation Agreement (SRA) is an agreement between two Participants and the Market Operator, under which the parties agree that the Market Operator shall allocate to one Participant (the "**Principal Participant**") all amounts owed by or to the other Participant (the "**Secondary Participant**") under Settlement Documents. A Settlement Reallocation Agreement is a legal document, which must be submitted to the Market Operator and approved, before submission through the Balancing Market Trading Interface.

There are a number of prevailing rules which govern the submission of SRAs;
  1) A Principal Participant can have SRAs with more than one Secondary Participant.
  2) A Principal Participant cannot also be a Secondary Participant.
  3) A Secondary Participant can have an SRA with only one Principal Participant.

5.8.2 SRA SUBMISSION & APPROVAL

For an SRA to be valid, matching agreement requests must be submitted through the Balancing Market Trading Interface by both the Principal Participant and the Secondary Participant.

Once matching SRA requests have been received, the matching agreement requests shall be considered "pending" Market Operator approval. Pending SRAs will then be approved or rejected by the Market Operator, in line with the Agreed Procedure 10[21].

Once approved, SRA shall become effective from the approved start date in the request.

5.8.3 SRA CANCELLATION AND TERMINATION

If a Participant wishes to cancel an SRA request that is pending Market Operator approval, the Participant shall contact the Market Operator to request that the "pending" SRA request is rejected.

A Participant can also request to Terminate an approved SRA, by submitting a request to the Market Operator, following the relevant process outlined in Agreed Procedure 10, Settlement Reallocation.

---

[21] Legal paperwork must be submitted to the Market operator to be approved before the SRAs can become effective.

Note: Upon approval of the termination request, both the Principal Participant and Secondary Participant will be responsible for their own financial obligations from the approved end date of the agreement.

5.8.4 SETTLEMENT REALLOCATION AGREEMENT - METHODS

Element	Requirement
market_submit	Mandatory if submit request.
market_query	Mandatory if query request.

Table 43: Trading (PNs), methods

5.8.5 SETTLEMENT REALLOCATION AGREEMENT - DATA ELEMENTS AND VALIDATIONS

Name	Validation	Validation Message	Hard / Soft	Submission	Query
market_submit_Element					
participant_name	The "participant_name" attribute is mandatory and the Participant should be registered in the I-SEM. It should not be more than 12 characters.	The user_name {0} for participant_name {1} does not have system access privileges to participate in Market Trading for trading_date {2}.	H	Mandatory	Mandatory
sem_settlement_reallocation Element (mandatory)					
principal_participant_name	The "principal_participant_name" attribute is mandatory and the participant_name should be registered in I-SEM	The principal participant name {0} is invalid	H	Mandatory	Mandatory
secondary_participant_name	The secondary participant name is mandatory and the participant name should be registered in I-SEM	The secondary participant name {0} is invalid	H	Mandatory	Mandatory
principal_participant_name, secondary_participant_name[22]	The participant_name in the header should be one of the either the principal_participant_name or the secondary_participant_name in the SRA submission	The principal or the second participant name is not matching with the submitting participant name {0}	H	Mandatory	Optional
start_date	This is the starting date of the SRA. It has to be greater than D for a new submission.	Invalid start date {0}	H	Mandatory	Optional
end_date	This is the ending date of the SRA. It has to be greater than D for any submission. The end date also has to be greater than equal to the start_date.	Invalid end date {0} for the SRA	H	Mandatory	Optional
agreement_name	Any valid string	Agreement name cannot be null	H	Mandatory	Optional
cancel_flag	The cancel_flag can be either true or false. This is optional and the default value is false. When cancel_flag is submitted as true, an existing SRA with the principal_participant_name,	Invalid SRA cancellation request	H	Optional	Optional

---

[22] This field is used to validate the submitted SRA and does not need to be included in the submission.

Name	Validation	Validation Message	Hard / Soft	Submission	Query
	secondary_participant_na me, start_date and end_date must exist				

Table 44: Trading (PNs), methods

5.8.6 SETTLEMENT REALLOCATION AGREEMENT - SAMPLE XML

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="../mi-market-isem.xsd">

  <market_submit
    application_type="BM"
    trading_date="2016-07-22"
    participant_name="NAME"
    user_name="USER_NAME"
    mode="NORMAL">

    <sem_settlement_reallocation
      principal_participant_name="NAME"
      secondary_participant_name="NAME"
      start_date="2016-11-22"
      end_date="2016-12-22"
      agreement_name="AGREEMENT_NAME"
      version_no="1.0">
      <identifier external_id="EXTERNAL_ID_STRING"/>
    </sem_settlement_reallocation>
  </market_submit>
</bids_offers>
```

Figure 65: SRA - (Submit)

```xml
<?xml version="1.0" encoding="UTF-8"?>
<bids_offers
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:noNamespaceSchemaLocation="../mi-market-isem.xsd">
    <market_query
    application_type="BM"
    trading_date="2016-06-01"
    participant_name="PART_NAME"
    user_name="PART_USER_NAME"
    mode="NORMAL">
    <sem_settlement_reallocation
      principal_participant_name="NAME"
      secondary_participant_name="NAME"
      version_no="1.0">
    </sem_settlement_reallocation>
    </market_query>
</bids_offers>
```

6   FIGURE 66: SRA - (QUERY)REPORTING

6.1   INTRODUCTION

This section of the I-SEM TS: Balancing Market Volume details the means by which reports are accessed via the MPI (Type 2 and Type 3) and provides details in relation to:
- report audience;
- report frequency, timing, granularity etc.; and
- report formats, including file types, data fields etc.

The focus of this document is on the Type 3 Communication Channel, i.e. submission and retrieval of I-SEM Reports via Web Services. In addition, some of the introductory sections also refer to the Type 2 Communication Channel (i.e. data submission and retrieval using the Market Participant Interface).

6.2   I-SEM BALANCING MARKET TRADING INTERFACE REPORTS

The Balancing Market Interface reports are accessed through web service queries and logging into the I-SEM Balancing Market Trading Interface, in some instances CSV and PDF are also available. XML queries are validated by defining the XML Schema.

Type 2 reports are available to all qualifying Participants by logging in through the Balancing Market Interface with the appropriate log in credentials. The Participant can then navigate, filter and select a report which is required for viewing. These reports can then be saved offline by the Participant.

All reports queried to the MMS via Type 3 submission will be in **Coordinated Universal Time (UTC)**. Reports viewed on screen via Type 2 will be in local time. Further explanation is provided in Section3.

6.3   TYPE 3 REPORT LIST / REPORTING QUERY PROCESS

Type 3 interaction enables Participants to:
- Retrieve a list of reports that are available and which match a supplied set of the available selection criteria; or
- Retrieve a specific report by defining all of the required selection criteria for the report (this approach may be used by Participants to determine if a particular report is available).

6.3.1   REQUESTING REPORT LIST PROCESS

In order for a Participant to request and receive a list of available reports, they must submit an XML query.

The following diagram illustrates the process for request and retrieval of a report list, or a specific report:
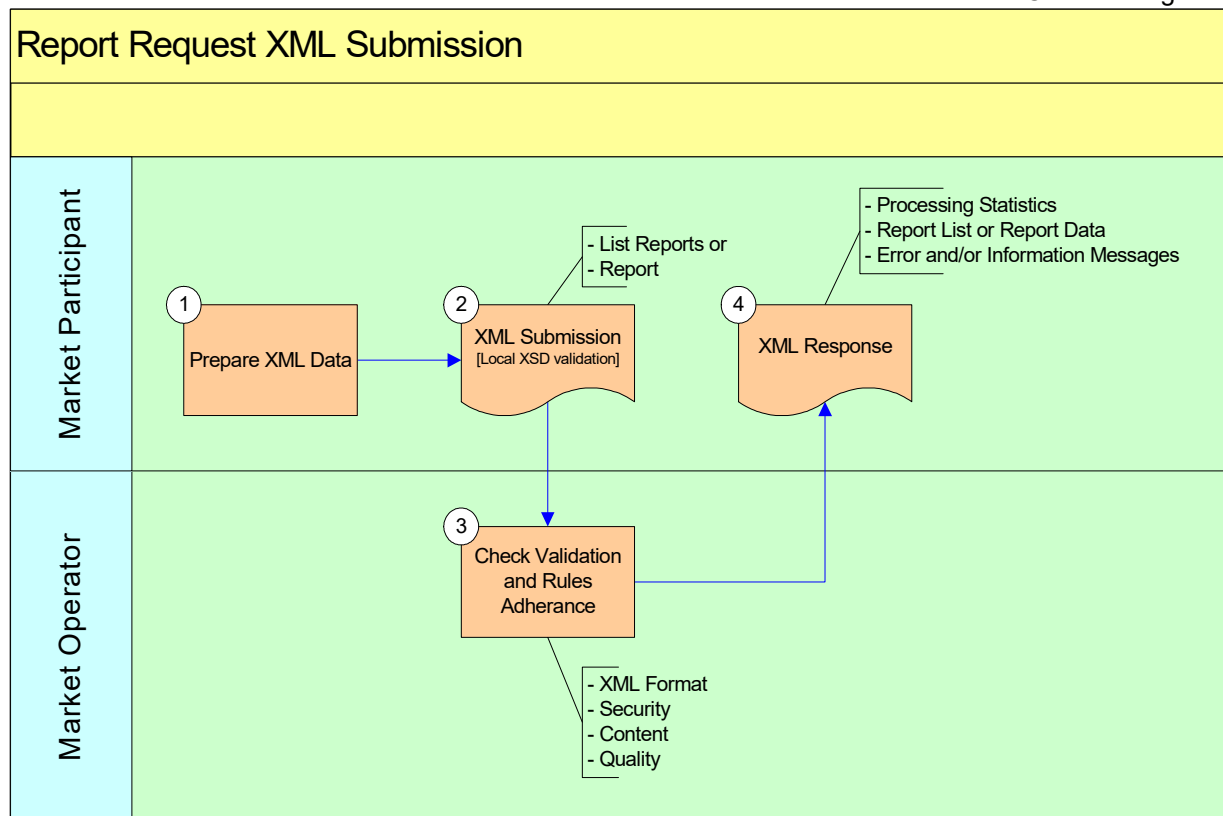
Figure 67: Report Request XML Submission Process

- **Step 1:** Participants prepare the XML Data (details on how this needs to be packaged, in terms of SOAP, WSDL, etc. are covered in the **Technical Volume** of the I-SEM Technical Specification).
- **Step 2**: A Report or a List of Reports can be requested and will typically be validated on the client (Participant) system to ensure compliance with the XML Schema rules.
- **Step 3**: The Transaction is received by the Balancing Market Interface and validation checks, including business rules, are applied.
- **Step 4**: If the Step 3 tests are passed then the Report or List of Reports is issued to the Participant as an XML response. If the request is unsuccessful, a response is issued detailing the relevant errors.

.

6.3.2 REQUESTING A SPECIFIED REPORT PROCESS

The Participant can request to receive individual reports from the list of reports received through the Reporting Query Process, as detailed in Section 6.3.1.

The process for requesting a specified report is similar to that shown in Figure 67.

6.4 REPORT QUERY VALIDATION

This section describes the validations for the report queries submitted to the Balancing Market Interface. This section is divided into two distinct sections, MI Reports and CSB Reports, both of which use their own reporting schema and query parameters.

6.4.1 MI REPORTS

6.4.1.1 VALIDATIONS FOR COMMON ATTRIBUTES –MI REPORTS

Name	Mandatory / Optional	Validation
application_type	Mandatory	Must be "MARKET_REPORT".
participant_name	Mandatory	Must be STRING.
		Must be validation combination with USER_NAME.
		Must have system privileges to allow Market Trading.
User_name	Mandatory	Must be STRING.
		Must be validation combination with PARTICIPANT_NAME.
		User must have system privileges for Market Trading.
version_no	Mandatory	Must be "1.0".
mode	Mandatory	Must be NORMAL.

Table 45: Generic Report Parameters

6.4.1.2 VALIDATIONS FOR REPORT AND LIST REPORT PARAMETERS –MI REPORTS

Name	Mandatory / Optional	Validation
request_type	Mandatory	"LIST REPORTS" or "REPORT".
action	Mandatory	Must be "DOWNLOAD".
report_type	Mandatory	Valid REPORT_TYPE and REPORT_SUB_TYPE combinations:
report_sub_type[24][25][26]	Mandatory for request_type "REPORT" Optional for request_type "LIST_REPORTS"	APPLICATION – ADHOC23 APPLICATION – NOTIFICATIONS INTERFACE - IGMG INTERFACE - DYNAMICS INTERFACE - EMS INTERFACE - MISCELLANEOUS INTERFACE - INTERCONNECTOR INTERFACE - NEMO MARKET - DAM_STANDING_CLOSE MARKET- IMBALANCE_PRICE MARKET - SCHEDULES MARKET - DISPATCH MARKET - METERING MARKET - MISCELLANEOUS MARKET - PARTICIPANT_DATA MARKET - DAM_STANDING_OPEN REGISTRATION - SNAP_SHOT
periodicity	Mandatory	Valid PERIODICITY: DAILY, MONTHLY, YEARLY, ADHOC "Periodicity" does not define how often a report is produced; rather it is used by Participants to retrieve different categories of reports.
access_class	Optional	MP (Member Private Specific reports); ALLMP (All MP specific reports); PUB (Public reports).
trade_date	Optional	YYYY-MM-DD For Daily market reports, the entire date is used. For monthly and yearly reports, the month and year are extracted from the trade date.

---

[24] If report_sub_type = "ADHOC", then periodicity should also be "ADHOC".
[25] Report sub type is not applicable for Settlement reports.
[26] See Appendix D for Report Type and Sub-Types mapping

Table 46: Report and Report List Parameters

6.4.1.3 VALIDATIONS FOR REPORT SPECIFIC PARAMETERS –MI REPORTS

Name	Mandatory / Optional	Validation
file_type	Mandatory	"XML", "HTML"or CSV – The format of the report to be downloaded.
report_name	Mandatory	Must be STRING.
file_name	Mandatory	Must be STRING.
multiple_messages	Mandatory	Must be "false".

Table 47: Report Specific Parameters

6.4.2 CSB REPORTS

6.4.2.1 VALIDATIONS FOR COMMON ATTRIBUTES –CSB REPORTS

Name	Mandatory / Optional	Validation
ApplicationType	Mandatory	Must be "CSB_REPORT".
ParticipantName	Mandatory	Must be STRING.
		Must be validation combination with USER_NAME@PARTY_ID@PARTICIPANT_ID.

Table 48: Generic Report Parameters, CSB Reports

6.4.2.2 VALIDATIONS FOR REPORT LIST PARAMETERS –CSB REPORTS

Name	Mandatory / Optional	Validation
ReportType	Mandatory	Valid ReportType: STTL_STATEMENT STTL_REPORT STTL_DOCUMENT STTL_CALENDAR ARA COLLATERAL BALIMB_FINANCIAL BALIMB_INFO CRM_FINANCIAL CRM_INFO MTR_GEN_INFO OVER_UNDER_GEN_PARAMS CRM_MARKET_PAYMENTS CRM_UNIT_PAYMENTS MAKE_WHOLE_PAYMENTS CROSS_BORDER_MLY_CAP CROSS_BORDER_WKLY_CAP BALANCE_INCOME MTR_VOL_JURIS DLY_RESIDUAL_ERR_VOL
MarketName	Mandatory	Valid MarketName: BALIMB BMCRM CRM MO FMOC ALL

Name	Mandatory / Optional	Validation
RunType	Mandatory	Valid RunType: INDICATIVE INITIAL M4 M13 REPT ADHOC
StartDate	Mandatory	YYYY-MM-DD
		For Daily reports, the entire date is used. For monthly and yearly reports, the month and year are extracted from the trade date.
EndDate	Optional	YYYY-MM-DD

Table 49: Report List Parameters, CSB Reports

6.4.2.3 VALIDATIONS FOR REPORT SPECIFIC PARAMETERS –CSB REPORTS

Name	Mandatory / Optional	Validation
ReportType	Mandatory	Valid ReportType: STTL_STATEMENT STTL_REPORT STTL_DOCUMENT STTL_CALENDAR ARA COLLATERAL BALIMB_FINANCIAL BALIMB_INFO CRM_FINANCIAL CRM_INFO MTR_GEN_INFO OVER_UNDER_GEN_PARAMS CRM_MARKET_PAYMENTS CRM_UNIT_PAYMENTS MAKE_WHOLE_PAYMENTS CROSS_BORDER_MLY_CAP CROSS_BORDER_WKLY_CAP BALANCE_INCOME MTR_VOL_JURIS DLY_RESIDUAL_ERR_VOL
ReportID	Mandatory	Must be Long (retrieved from the csbReportList response file)
BatchID	Mandatory	Must be Long (retrieved from the csbReportList response file)
ReportIdentifier	Mandatory	Must be String
MarketName	Optional	Valid MarketName: BALIMB BMCRM CRM MO FMOC ALL
AccessClass	Mandatory	Valid AccessClass: MEMBER_PRIVATE MEMBER_GEN__PUB GENERAL_PUB ENTSO_E
FileName	Optional	Must be String. Limit 120 characters.

Name	Mandatory / Optional	Validation
FileType	Optional	Valid FileType: CSV XML HTML

Table 50: Report Specific Parameters, CSB Reports

6.5 BALANCING MARKET INTERFACE REPORTS AND CONTENT DETAILS

This section describes the report interface queries submitted to the Balancing Market Interface. This section is divided into two distinct sections, MI Reports and CSB Reports, both of which use their own reporting schema and query parameters.

6.5.1 MI REPORTS

Report Categories (confidentiality)
- Member Public: The report data is available to all Participants. The REPORT_NAME in each REPORT_HEADER will start with the prefix "PUB".
- Member Private: The report data is specific to the Participant. This is determined by the digital certificate used to download the report. The REPORT_NAME in each REPORT_HEADER will start with the prefix "MP".

Note:
- *For all reports listed in this section, any fields which contain no values (null values) are represented in the reports by a hyphen ("-").*
- *The report timings listed for each report represent the time that the report generation event is triggered in the Balancing Market Interface.*

Report element format types referenced in this section are defined in the following table:

Format	Description	Example
CHAR(x)	Character field of exactly length x.	CHAR(1) = 'P'
VARCHAR2(x)	Character field of length x or less	VARCHAR2(4) = 'NI'
NUMBER(x, y)	Number field: x : number of digits (including after the decimal). y : number of digits to the right of the decimal. Where no values to the right of the decimal point exist, there will be no y value in the format definition. When there is no value available for the field in the MO database, the reports will populate the field with '-'. As such, this is not a NUMBER value in the true database sense, and interfaces to handle report downloads should be written to cater for this.	NUMBER(8,3) = 99999.999
DATE (YYYY-MM-DD)	Date, format defined in parenthesis. When there is no value available for the DATE field in the MO database, the reports will populate the field with '-'. As such, this is not a DATE value in the true database sense, and interfaces to handle report downloads should be written to cater for this.	2007-01-31
DATE TIME(YYYY-MM-DDTH24:MI)	Date and Time, format utilising a 24-hour clock. When there is no values available for the DATE field in the MO database, the reports will populate the field with '-'. As such, this is not a DATE value in the true database sense, and interfaces to handle report downloads should be written to cater for this.	2016-06-02 19:59:50
TIME (YYYY-MM-DDTH24:MI))	Time, format utilising a 24-hour clock. Refer to Section 3.2 for further detail.	2016-06-02 19:59:50

Table 51: Report Data Formats

6.5.2 CSB REPORTS

Report Categories (confidentiality)
This section is for CSB settlement reports. Those are found in Section 6.7.11 of this document.

- Member Public: The report filename will begin with **XX_PT_ALL**, where **XX** = Report Identifier (e.g. **SC_PT_ALL**… is the Member Public Settlement Calendar Report).
- Member Private: The report filename will begin with **XX_PT_PTACPT_ID**, where **XX** = Report Identifier and PARTICIPANT_ID is the Participant Identifier. (e.g. **SS_PT_123456**… is the Member Private Settlement Statement Report, for Participant 123456).
- General Public: The report filename will begin with **XX_GP_ALL**, where **XX** = Report Identifier (e.g. **MW_GP_ALL**… is the General Public Make Whole Payment Report).

Report element format types referenced in this section are defined in the following table:

Format	Description	Example
DATE (YYYY-MM-DD)	Date, format defined in parenthesis.	2007-01-31
Long	Long integer format. The value used in CSB report query comes directly from the csbReportDownload query result set.	201711800000022189

6.6 REPORTS LISTING

6.6.1 ANNUAL REPORTS

Ref	Name	Member Private	Member Public
REPT_023	Annual Combined Loss Adjustment Factor		Y
REPT_018	Annual Load Forecast		Y

Table 52: Annual Report Listing

6.6.2 MONTHLY REPORTS

Ref	Name	Member Private	Member Public
REPT_025	Monthly Load Forecast and Aggregated Load Forecast and Assumptions Report		Y
REPT_037	Registered Capacity Report		Y

Table 53: Monthly Report Listing

6.6.3 DAILY REPORTS – FORECASTS

Ref	Name	Member Private	Member Public
REPT_083	Unit Under Test Report		Y
REPT_020	Daily Load Forecast Summary		Y
REPT_027	Four Day Rolling Wind Unit Forecast		Y
REPT_028	Four Day Aggregated Rolling Wind Unit Forecast		Y
REPT_075	Aggregated Wind Forecast		Y
REPT_042	Forecast Imbalance		Y
REPT_021, REPT_086, REPT_087	Daily Interconnector NTC		Y
REPT_088	Net Imbalance Volume		Y

Table 54: Daily Report Listing - Forecasts

6.6.4 DAILY REPORTS – COD AND TOD

Ref	Name	Member Private	Member Public
REPT_011	Daily Technical Offer Data		Y
REPT_053	Commercial Offer Data Report – Member Private	Y	

REPT_013	Commercial Offer Data Report -– Member Public		Y
REPT_012	Forecast Availability		Y
REPT_104	Daily Standing Conversion at Market Open	Y	

Table 55: Daily Report Listing – COD and TOD

6.6.5 DAILY REPORTS – RESULTS AND PNS

Ref	Name	Member Private	Member Public
REPT_078	Aggregated Contracted Quantities for Generation		Y
REPT_079	Aggregated Contracted Quantities for Demand		Y
REPT_080	Aggregated Contracted Quantities for Wind		Y
REPT_052	Physical Notifications	Y	
REPT_089	Final Physical Notifications		Y
REPT_077	Aggregated Physical Notifications		Y

Table 56: Daily Report Listing – Results and PNs

6.6.6 DAILY REPORTS – OPERATIONAL SCHEDULES

Ref	Name	Member Private	Member Public
REPT_001b	LTS Operational Schedule Report, Member Public		Y
REPT_002b	RTIC Operational Schedule Report, Member Public		Y
REPT_003a	RTID Operational Schedule Report, Member Private	Y	
REPT_003b	RTID Operational Schedule Report, Member Public		Y
REPT_004	RTID Merit Order List Report, Member Private	Y	

Table 57: Daily Report Listing – Operational Schedules

6.6.7 DAILY REPORTS – IMBALANCES

Ref	Name	Member Private	Member Public
REPT_084/085	System Shortfall Imbalance Index and Flattening Factor, Member Public		Y
REPT_008	Imbalance Price Report		Y
REPT_009	Imbalance Price Report (Imbalance Settlement Period)		Y
REPT_050	Imbalance Price Supporting Information Report		Y
REPT_041	Balancing & Imbalance Market Cost		Y

Table 58: Daily Report Listing – Imbalances

6.6.8 DAILY REPORTS – OTHER

Ref	Name	Member Private	Member Public
REPT_026	Daily Transmission Outage Schedule Report		Y
REPT_010	Daily Trading Day Exchange Rate Report		Y

Table 59: Daily Report Listing – Other

6.6.9 DAILY REPORTS – EX POST

Ref	Name	Member Private	Member Public
REPT_006	Daily Dispatch Instructions (D+1) Report		Y
REPT_007	Daily Dispatch Instructions (D+4) Report		Y
REPT_014	Daily Demand Control Data Transaction Report		Y
REPT_015	Daily Generator Unit Technical Characteristic Data Transaction Report		Y
REPT_016	Daily Energy Limited Generator Unit Technical Characteristic Data Transaction Report		Y
REPT_017	Daily Meter Data Report		Y
REPT_029	Average System Frequency Report		Y
REPT_030	SO Interconnector Trades Report		Y

Ref	Name	Member Private	Member Public
REPT_031	Unit Data Report		Y
REPT_022	Initial Interconnector Flows and Residual Capacity Report		Y
REPT_068	Dispatch Quantity		Y
REPT_082	Average Outturn Availability		Y
REPT_101	Outturn Availability		Y
REPT_081	Anonymised Inc / Dec Curves Report		Y
REPT_102	Hourly Dispatch Instructions Report		Y
REPT_103	Hourly SO Interconnector Trades Report		Y

Table 60: Daily Report Listing – Ex-Post

6.6.10 REPORTS - EVENT DRIVEN

Ref	Name	Member Private	Member Public
REPT_035	List of Registered Units Reports		Y
REPT_036	List of Registered Parties Report		Y

Table 61: Daily Report Listing – Event Driven

6.6.11 SETTLEMENT REPORTS

Ref	Name	Member Private	Member Public
REPT_043	Settlement Statement	Y	
REPT_044	Settlement Report	Y	
REPT_045	Settlement Document	Y	
REPT_046	Reallocation Requests	Y	
REPT_048	Collateral Report	Y	
REPT_049	Collateral Refund Notice	Y	
REPT_055	Energy Market Financial Publication - Indicative		Y
REPT_056	Energy Market Financial Publication - Initial		Y
REPT_104	Energy Market Financial Publication – M+4		Y
REPT_105	Energy Market Financial Publication – M+13		Y
REPT_106	Energy Market Financial Publication – Ad-hoc		Y
REPT_057	Energy Market Information Publication - Indicative		Y
REPT_058	Energy Market Information Publication - Initial		Y
REPT_107	Energy Market Information Publication – M+4		Y
REPT_108	Energy Market Information Publication – M+13		Y
REPT_109	Energy Market Information Publication – Ad-hoc		Y
REPT_059	Capacity Market Information Publication – Indicative		Y
REPT_060	Capacity Market Information Publication - Initial		Y
REPT_110	Capacity Market Information Publication – M+4		Y
REPT_111	Capacity Market Information Publication – M+13		Y
REPT_112	Capacity Market Information Publication – Ad-hoc		Y
REPT_061	Capacity Market Financial Publication – Indicative		Y
REPT_062	Capacity Market Financial Publication – Initial		Y
REPT_113	Capacity Market Financial Publication – M+4		Y
REPT_114	Capacity Market Financial Publication – M+13		Y
REPT_115	Capacity Market Financial Publication – Ad-hoc		Y
REPT_063	Metered Generation Information Publication – Indicative		Y
REPT_064	Metered Generation Information Publication – Initial		Y
REPT_116	Metered Generation Information Publication – M+4		Y
REPT_117	Metered Generation Information Publication – M+13		Y
REPT_118	Metered Generation Information Publication – Ad-hoc		Y
REPT_065	DOG/PUG/TOLOG/TOLUG For Over/Under Generation		Y
REPT_067	Settlement Calendar		Y
REPT_069	Capacity Payments By Market		Y
REPT_070	Capacity Payments By Unit		Y
REPT_074	Make Whole Payment		Y
REPT_071	Cross Border Monthly Capacity Data		Y
REPT_072	Cross Border Weekly Energy Data		Y
REPT_066	Metered Volumes By Jurisdiction (Indicative, Initial, M+4, M+13, Adhoc		Y

Table 62: Settlement Reports

6.7   TRADING REPORTS

6.7.1   ANNUAL REPORTS

This section specifies reports which will be produced on an annual basis.

6.7.1.1   ANNUAL COMBINED LOSS ADJUSTMENT FACTOR REPORT

This report details Combined Loss Adjustment Factors (CLAFs) for Units for each Trading Period in the relevant year, accounting for Transmission and Distribution losses associated with the transfer of energy.

I-SEM Report Reference:	*REPT_023*
Periodicity:	*Annual*
Report Name:	*PUB_AnnualCLAF*
File Names:	*PUB_AnnualCLAF.xml*
Report Title:	*Annual Combined Loss Adjustment Factor Report*
Audience:	*Member Public*
Resolution:	*Trading Period*
Time Span:	*Following year*
Frequency:	*Once every year, in August and ad hoc upon new Unit registration*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the I-SEM Balancing Market Trading Interface.
RESOURCE NAME	VARCHAR2(32)	Resource identifier, e.g. GU_XXXXXX
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time of the time period to which the Loss Factor relates
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the time period to which the Loss Factor relates
LOSS FACTOR	NUMBER (4,3)	Loss Factor

Table 63: Combined Loss Adjustment Factor Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2017-10-25T14:47:01" DateType="TRADE" Date="2017-12-01" DatasetType="ANNUAL"
  DatasetName="PUB_AnnualCLAF" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    - <PUB_AnnualCLAF ROW="1">
        <TradeDate>2017-10-24</TradeDate>
        <ParticipantName>IA_NIMOYLE</ParticipantName>
        <DeliveryDate>2017-10-23</DeliveryDate>
        <ResourceName>I_NIMOYLE</ResourceName>
        <StartTime>2017-10-23T23:00:00</StartTime>
        <EndTime>2017-10-24T22:00:00</EndTime>
        <LossFactor>0.995</LossFactor>
    </PUB_AnnualCLAF>
```

Figure 68: REPT_023: Combined Loss Adjustment Factor Report – Sample

6.7.1.2   ANNUAL LOAD FORECAST REPORT

This report contains the load forecast per jurisdiction (ROI & NI) and an aggregated value for both Jurisdictions, for each Trading Period in the relevant year.

I-SEM Report Reference:	*REPT_018*
Periodicity:	*Annual*
Report Name:	*PUB_AnnualLoadFcst*
File Names:	*PUB_AnnualLoadFcst.xml*
Report Title:	*Annual Load Forecast Report*
Audience:	*Member Public*
Resolution:	*Trading Period*
Time Span:	*Following year*
Frequency:	*Once every year, in August*
Report Format:	*XML*

Field Name	Format	Description
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time of the 30 minute Trading Period
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the 30 minute Trading Period
LOAD FORECAST ROI	NUMBER(10)	Load Forecast for ROI (MW)
LOAD FORECAST NI	NUMBER(10)	Load Forecast for NI (MW)
AGGREGATED FORECAST	NUMBER(10)	Aggregated Load Forecast for both Jurisdictions.

Table 64: Annual Load Forecast Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-06-21T16:04:05" DateType="TRADE" Date="2018-01-01" DatasetType="ANNUAL"
DatasetName="PUB_AnnualLoadFcst" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <PUB_AnnualLoadFcst ROW="1">
       <DeliveryDate>2018-04-27</DeliveryDate>
       <StartTime>2018-04-27T23:30:00</StartTime>
       <EndTime>2018-04-28T00:00:00</EndTime>
       <LoadForecastROI>2770</LoadForecastROI>
       <LoadForecastNI>788</LoadForecastNI>
       <AggregatedForecast>3558</AggregatedForecast>
  </PUB_AnnualLoadFcst>
  <PUB_AnnualLoadFcst ROW="2">
       <DeliveryDate>2018-04-28</DeliveryDate>
       <StartTime>2018-04-28T00:00:00</StartTime>
       <EndTime>2018-04-28T00:30:00</EndTime>
       <LoadForecastROI>2556</LoadForecastROI>
       <LoadForecastNI>742</LoadForecastNI>
       <AggregatedForecast>3298</AggregatedForecast>
  </PUB_AnnualLoadFcst>
```

Figure 71: REPT_018: Annual Load Forecast Report - Sample

6.7.2 MONTHLY REPORTS

This section specifies reports which will be produced on a monthly basis.

6.7.2.1 MONTHLY LOAD FORECAST AND ASSUMPTIONS REPORT

This report contains the load forecast per jurisdiction (ROI & NI), an aggregated value for both Jurisdictions and assumptions, for each Trading Period in the following calendar month.

I-SEM Report Reference:	*REPT_025*
Report Type:	*Trans_System*
Report Sub-Type:	*Forecast*
Periodicity:	*Monthly*
Report Name:	*PUB_MonthlyLoadFcst*
File Names:	*PUB_MonthlyLoadFcst.xml*

Report Title:	*Monthly Load Forecast and Aggregated Load Forecast and Assumptions Report*
Audience:	*Member Public*
Resolution:	*Trading Period*
Time Span:	*Following month*
Frequency:	*Once every Month*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time of the 30 minute Trading Period
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the 30 minute Trading Period
LOAD FORECAST ROI	NUMBER(10)	Load Forecast for ROI (MW)
LOAD FORECAST NI	NUMBER(10)	Load Forecast for NI (MW)
AGGREGATED FORECAST	NUMBER(10)	Aggregated Load Forecast for both Jurisdictions.

Table 65: Monthly Load Forecast and Assumptions Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-06-21T10:44:25" DateType="TRADE" Date="2018-06-01" DatasetType="MONTHLY"
  DatasetName="PUB_MonthlyLoadFcst" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  - <PUB_MonthlyLoadFcst ROW="1">
      <DeliveryDate>2018-06-01</DeliveryDate>
      <TradeDate>2018-06-01</TradeDate>
      <StartTime>2018-06-01T00:00:00</StartTime>
      <EndTime>2018-06-01T00:30:00</EndTime>
      <LoadForecastROI>2456</LoadForecastROI>
      <LoadForecastNI>741</LoadForecastNI>
      <AggregatedForecast>3197</AggregatedForecast>
  </PUB_MonthlyLoadFcst>
```

Figure 69: REPT_025: Monthly Load Forecast and Assumptions Report – Sample

6.7.2.2 REGISTERED CAPACITY REPORT

This report contains the Registered Capacity and Fuel Type information for all Generator and Demand Side Units currently registered in the I-SEM.

I-SEM Report Reference:	*REPT_037*
Periodicity:	*Monthly*
Report Name:	*PUB_MnlyRegisteredCapacity*
File Names:	*PUB_MnlyRegisteredCapacity.xml*
Report Title:	*Registered Capacity Report*
Audience:	*Member Public*
Resolution:	*n/a*
Time Span:	*At the time of publication*
Frequency:	*Once every month*
Report Format:	*XML*

Field Name	Format	Description
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Publish Date/time
PARTICIPANT ID	VARCHAR2(12)	e.g. PT_xxxxxx
PARTICIPANT NAME	VARCHAR2(60)	Participant Name
RESOURCE NAME	VARCHAR2(32)	Resource identifier
UNIT NAME	VARCHAR2(32)	Unit Name
REGISTERED CAPACITY	NUMBER(8,3)	Registered Capacity or MW
DUAL FUEL FLAG	CHAR(1)	Y/N
FUEL TYPE	VARCHAR2(22)	WIND, GAS, MULTI, HYDRO, PEAT, COAL, PUMP, BIO, GAS, OIL, DISTL, DEM(Demand) etc..
SECONDARY FUEL TYPE	VARCHAR2(22)	Valid value from Fuel Type.
JURISDICTION	VARCHAR2(32)	ROI/NI

Table 66: Registered Capacity Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-01T09:00:01" DateType="TRADE" Date="2018-07-01" DatasetType="MONTHLY"
    DatasetName="PUB_MnlyRegisteredCapacity" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_MnlyRegisteredCapacity PublishTime="2018-07-01T09:00:01" Jurisdiction="ROI" RegisteredCapacity="0"
        ResourceName="IEU_ROIEWIC" ParticipantName="EirGrid (acting as Interconnector Administrator)"
        ParticipantID="IA_EIRGRID" ROW="1"/>
      <PUB_MnlyRegisteredCapacity PublishTime="2018-07-01T09:00:01" Jurisdiction="NI" RegisteredCapacity="0"
        ResourceName="IEU_NIMOYLE" ParticipantName="SONI (acting as Interconnector Administrator)" ParticipantID="IA_SONI"
        ROW="2"/>
      <PUB_MnlyRegisteredCapacity PublishTime="2018-07-01T09:00:01" Jurisdiction="ROI" RegisteredCapacity="0"
        ResourceName="I_ROIEWIC" ParticipantName="EirGrid Interconnector Designated Activity Company"
        ParticipantID="IO_EIDAC" ROW="3" UnitName="Portan Converter Station"/>
      <PUB_MnlyRegisteredCapacity PublishTime="2018-07-01T09:00:01" Jurisdiction="ROI" RegisteredCapacity="0"
        ResourceName="I_ROIEWIC" ParticipantName="EirGrid Interconnector Designated Activity Company"
        ParticipantID="IO_EIDAC" ROW="4" UnitName="Portan Converter Station"/>
      <PUB_MnlyRegisteredCapacity PublishTime="2018-07-01T09:00:01" Jurisdiction="NI" RegisteredCapacity="0"
        ResourceName="I_NIMOYLE" ParticipantName="Moyle Interconnector Limited" ParticipantID="IO_MOYLE" ROW="5"
        UnitName="I_NIMOYLE"/>
      <PUB_MnlyRegisteredCapacity PublishTime="2018-07-01T09:00:01" Jurisdiction="ROI" RegisteredCapacity="25"
        ResourceName="GU_400020" ParticipantName="SSE Airtricity Limited" ParticipantID="PT_400021" ROW="6"
        UnitName="Kingsountain" FuelType="WIND" DualFuelFlag="N"/>
      <PUB_MnlyRegisteredCapacity PublishTime="2018-07-01T09:00:01" Jurisdiction="ROI" RegisteredCapacity="25"
        ResourceName="GU_400020" ParticipantName="SSE Airtricity Limited" ParticipantID="PT_400021" ROW="7"
        UnitName="Kingsountain" FuelType="WIND" DualFuelFlag="N"/>
```

Figure 70: REPT_037: Registered Capacity Report - Sample

6.7.3 DAILY REPORTS – FORECASTS

6.7.3.1 UNIT UNDER TEST

This report contains details of the Units Under Test for the following Trading Day.

I-SEM Report Reference:	*REPT_083*
Data Source	*System*
Report Name:	*PUB_DailyUnitUnderTest*
File Names:	*PUB_DailyUnitUnderTest.xml*
Report Title:	*Unit Under Test Report*
Audience:	*Member Public*
Resolution:	*Per Physical Notification segment that is Under Test*
Time Span:	*Trading Day + 1*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market
RESOURCE NAME	VARCHAR2(32)	Generation Unit Identification
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time of the Under Test PN segment
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the Under Test PN segment

Table 67: Unit Under Test Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-18T09:15:01" DateType="TRADE" Date="2018-07-19" DatasetType="DAILY"
    DatasetName="PUB_DailyUnitUnderTest" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_DailyUnitUnderTest EndTime="2018-07-19T06:30:00" StartTime="2018-07-19T06:00:00" TradeDate="2018-07-19"
        ResourceName="GU_400762" ParticipantName="PT_400064" ROW="1"/>
      <PUB_DailyUnitUnderTest EndTime="2018-07-19T07:00:00" StartTime="2018-07-19T06:30:00" TradeDate="2018-07-19"
        ResourceName="GU_400762" ParticipantName="PT_400064" ROW="2"/>
      <PUB_DailyUnitUnderTest EndTime="2018-07-19T07:30:00" StartTime="2018-07-19T07:00:00" TradeDate="2018-07-19"
        ResourceName="GU_400762" ParticipantName="PT_400064" ROW="3"/>
      <PUB_DailyUnitUnderTest EndTime="2018-07-19T08:00:00" StartTime="2018-07-19T07:30:00" TradeDate="2018-07-19"
        ResourceName="GU_400762" ParticipantName="PT_400064" ROW="4"/>
```

Figure 71: REPT_083: Unit Under Test Report - Sample

6.7.3.2   DAILY LOAD FORECAST SUMMARY REPORT

This report contains the load forecast by Jurisdiction (ROI/NI) for each Trading Period in the following four Trading Days.

I-SEM Report Reference:	*REPT_020*
Periodicity:	*Daily*
Report Name:	*PUB_DailyLoadFcst*
File Names:	*PUB_DailyLoadFcst_YYYYMMDDHHMM.xml*
Report Title:	*Daily Load Forecast Summary Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Four calendar days*
Frequency:	*Following receipt of each Four Day Load Forecast*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time of the 30 minute Trading Period
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the 30 minute Trading Period
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
LOAD FORECAST ROI	NUMBER(10)	Load Forecast for ROI (MW)
LOAD FORECAST NI	NUMBER(10)	Load Forecast for NI (MW)
AGGREGATED FORECAST	NUMBER(10)	Aggregated Load Forecast for both Jurisdictions.

Table 68: Daily Load Forecast Summary Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-24T00:20:20" DateType="TRADE" Date="2018-07-24" DatasetType="ON_DEMAND"
DatasetName="PUB_DailyLoadFcst" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyLoadFcst ROW="1">
        <DeliveryDate>2018-07-23</DeliveryDate>
        <TradeDate>2018-07-24</TradeDate>
        <StartTime>2018-07-23T22:00:00</StartTime>
        <EndTime>2018-07-23T22:30:00</EndTime>
        <LoadForecastROI>2962</LoadForecastROI>
        <LoadForecastNI>840</LoadForecastNI>
        <AggregatedForecast>3802</AggregatedForecast>
    </PUB_DailyLoadFcst>
    <PUB_DailyLoadFcst ROW="2">
        <DeliveryDate>2018-07-23</DeliveryDate>
        <TradeDate>2018-07-24</TradeDate>
        <StartTime>2018-07-23T22:30:00</StartTime>
        <EndTime>2018-07-23T23:00:00</EndTime>
        <LoadForecastROI>2810</LoadForecastROI>
        <LoadForecastNI>781</LoadForecastNI>
        <AggregatedForecast>3591</AggregatedForecast>
    </PUB_DailyLoadFcst>
```

Figure 72: REPT_020: Daily Load Forecast Summary Report - Sample

6.7.3.3   FOUR DAY ROLLING WIND UNIT FORECAST REPORT

This report is produced four times per day and contains the expected output (MW) for each Wind Unit per 15 mins in the next four Trading Days, produced following the receipt of each accepted Wind Power Unit Forecast.

I-SEM Report Reference:	*REPT_027*
Periodicity:	*On Demand*
Data Source:	*TSO (WEF)*
Report Name:	*PUB_4DayRollWindUnitFcst*
File Names:	*PUB_4DayRollWindUnitFcst_YYYYMMDDHHMM.xml*

Report Title:	*Four Day Rolling Wind Unit Forecast Report*
Audience:	*Member Public*
Resolution:	*15 minutes*
Time Span:	*Next four Trading Days*
Frequency:	*Four times per day, following receipt of each Wind Unit Forecast*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start date/time of forecast data
END TIME	TIME(YYYY-MM-DDTH24:MI)	End date/time of forecast data
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
PARTICIPANT NAME	VARCHAR2(12)	Participant Name
RESOURCE NAME	VARCHAR2(36)	Resource Name
JURISDICTION	VARCHAR2(5	ROI (Republic of Ireland) or NI (Northern Ireland)
FORECAST MW	NUMBER(8,3)	Forecasted MW

Table 69: Four Day Rolling Wind Unit Forecast Report

```
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-24T06:03:35" DateType="TRADE" Date="2018-07-24" DatasetType="ON_DEMAND"
 DatasetName="PUB_4DayRollWindUnitFcst" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_4DayRollWindUnitFcst ForecastMW="0.88" EndTime="2018-07-23T22:15:00" StartTime="2018-07-23T22:00:00"
        ResourceName="GU_500010" ParticipantName="PT_500021" Jurisdiction="NI" TradeDate="2018-07-24" DeliveryDate="2018-
        07-23" ROW="1"/>
    <PUB_4DayRollWindUnitFcst ForecastMW="0.86" EndTime="2018-07-23T22:30:00" StartTime="2018-07-23T22:15:00"
        ResourceName="GU_500010" ParticipantName="PT_500021" Jurisdiction="NI" TradeDate="2018-07-24" DeliveryDate="2018-
        07-23" ROW="2"/>
    <PUB_4DayRollWindUnitFcst ForecastMW="0.83" EndTime="2018-07-23T22:45:00" StartTime="2018-07-23T22:30:00"
        ResourceName="GU_500010" ParticipantName="PT_500021" Jurisdiction="NI" TradeDate="2018-07-24" DeliveryDate="2018-
        07-23" ROW="3"/>
    <PUB_4DayRollWindUnitFcst ForecastMW="0.8" EndTime="2018-07-23T23:00:00" StartTime="2018-07-23T22:45:00"
        ResourceName="GU_500010" ParticipantName="PT_500021" Jurisdiction="NI" TradeDate="2018-07-24" DeliveryDate="2018-
        07-23" ROW="4"/>
```

Figure 73: REPT_027: Four Day Rolling Wind Unit Forecast Report - Sample

6.7.3.4 FOUR DAY AGGREGATED ROLLING WIND UNIT FORECAST REPORT

This report is run four times per day, containing the aggregated output (MW) across all Wind Units in each jurisdiction, for the next four Trading Days, produced following the receipt of each Wind Unit Forecast.

I-SEM Report Reference:	*REPT_028*
Periodicity:	*On Demand*
Report Name:	*PUB_4DayAggRollWindUnitFcst*
File Names:	*PUB_4DayAggRollWindUnitFcst_YYYYMMDDHHMM.xml*
Report Title:	*Four Day Aggregated Rolling Wind Unit Forecast Report*
Audience:	*Member Public*
Resolution:	*15 mins*
Time Span:	*Next four Trading Days*
Frequency:	*Four times per day*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start date/time of forecast data
END TIME	TIME(YYYY-MM-DDTH24:MI)	End date/time of forecast data
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
LOAD FORECAST ROI	NUMBER(11,3)	Load Forecast for ROI (MW)
LOAD FORECAST NI	NUMBER(11,3)	Load Forecast for NI (MW)
AGGREGATED FORECAST	NUMBER(11,3)	Aggregated Load Forecast for both Jurisdictions.

Table 70: Four Day Aggregated Rolling Wind Unit Forecast Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-24T06:03:35" DateType="TRADE" Date="2018-07-24" DatasetType="ON_DEMAND"
    DatasetName="PUB_4DayAggRollWindUnitFcst" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="249.45" LoadForecastNI="31.96" LoadForecastROI="217.49" EndTime="2018-
        07-23T22:15:00" StartTime="2018-07-23T22:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="1"/>
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="248.78" LoadForecastNI="33.24" LoadForecastROI="215.54" EndTime="2018-
        07-23T22:30:00" StartTime="2018-07-23T22:15:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="2"/>
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="248.05" LoadForecastNI="34.49" LoadForecastROI="213.56" EndTime="2018-
        07-23T22:45:00" StartTime="2018-07-23T22:30:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="3"/>
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="247.32" LoadForecastNI="35.74" LoadForecastROI="211.58" EndTime="2018-
        07-23T23:00:00" StartTime="2018-07-23T22:45:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="4"/>
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="244.36" LoadForecastNI="35.9" LoadForecastROI="208.46" EndTime="2018-
        07-23T23:15:00" StartTime="2018-07-23T23:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="5"/>
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="238.91" LoadForecastNI="34.96" LoadForecastROI="203.95" EndTime="2018-
        07-23T23:30:00" StartTime="2018-07-23T23:15:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="6"/>
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="233.67" LoadForecastNI="34.07" LoadForecastROI="199.6" EndTime="2018-
        07-23T23:45:00" StartTime="2018-07-23T23:30:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="7"/>
    <PUB_4DayAggRollWindUnitFcst AggregatedForecast="228.34" LoadForecastNI="33.12" LoadForecastROI="195.22" EndTime="2018-
        07-24T00:00:00" StartTime="2018-07-23T23:45:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="8"/>
```

Figure 74: REPT_028: Four Day Aggregated Rolling Wind Unit Forecast Report - Sample

6.7.3.5 AGGREGATED WIND FORECAST REPORT

This report is produced four times per day, following the receipt of each Wind Unit Forecast, containing aggregate 15 minute forecasts for all jurisdictions (i.e. the sum for all jurisdictions in REPT_028).

I-SEM Report Reference:	*REPT_075*
Data Source	*TSO*
Periodicity:	*Daily (4 times per day)*
Report Name:	*PUB_15MinAggWindFcst*
File Names:	*PUB_15MinAggWindFcst_YYYYMMDDHHMM.xml*
Report Title:	*Aggregated Wind Forecast Report*
Audience:	*Member Public*
Resolution:	*15 mins*
Time Span:	*Next four Trading Days*
Frequency:	*Four times per day, following receipt of each Wind Unit Forecast*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start date/time of forecast data
END TIME	TIME(YYYY-MM-DDTH24:MI)	Start date/time of forecast data
FORECAST	NUMBER(11,3)	Aggregated Wind Forecast

Table 71: Aggregated Wind Forecast Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-24T00:03:43" DateType="TRADE" Date="2018-07-24" DatasetType="ON_DEMAND"
    DatasetName="PUB_15MinAggWindFcst" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_15MinAggWindFcst Forecast="249.45" EndTime="2018-07-23T22:15:00" StartTime="2018-07-23T22:00:00"
        DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="1"/>
    <PUB_15MinAggWindFcst Forecast="248.78" EndTime="2018-07-23T22:30:00" StartTime="2018-07-23T22:15:00"
        DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="2"/>
    <PUB_15MinAggWindFcst Forecast="248.05" EndTime="2018-07-23T22:45:00" StartTime="2018-07-23T22:30:00"
        DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="3"/>
    <PUB_15MinAggWindFcst Forecast="247.32" EndTime="2018-07-23T23:00:00" StartTime="2018-07-23T22:45:00"
        DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="4"/>
```

Figure 75: REPT_075: Aggregated Wind Forecast Report - Sample

6.7.3.6 FORECAST IMBALANCE REPORT

This reports details the sum of all the Spot MW Physical Notifications which are submitted by Participants, the net Interconnector schedule, the TSO renewables forecast for non-Dispatchable renewable Units and the calculated imbalance, for each Imbalance Settlement Period until the end of the latest Trading Day for which the Day Ahead Market gate is closed.

I-SEM Report Reference:	*REPT_042*
Data Source	*Balancing Market Runs*
Periodicity:	*Hourly*
Report Name:	*PUB_HrlyForecastImbalance*
File Names:	*PUB_HrlyForecastImbalance_YYYYMMDDHHMM.xml*
Report Title:	*Forecast Imbalance Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Starting from the Hour Ahead of Imbalance Settlement Period until the end of the latest Trading Day for which the Day Ahead Market gate is closed with a value for each Imbalance Pricing Period (e.g. 5 mins)..*
Frequency:	*Every Hour*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Settlement Imbalance Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Settlement Imbalance Period End Time
CALCULATED IMBALANCE	NUMBER(8,3)	Resulting calculated imbalance for the next Imbalance Settlement Period until the end of the latest Trading Day for which the Day Ahead Market has closed, calculated as: TSO DEMAND FORECAST – [TOTAL PN + NET INTERCONNECTOR SCHEDULE + TSO RENEWABLE FORECAST (PRIORITY DISPATCH)] Note: TSO RENEWABLE FORECAST (NPDR) is not included in the CALCULATED IMBALANCE as the PN volumes for Non-Priority Dispatch Renewable Units will already be included in the TOTAL PN values.
TOTAL PN	NUMBER(8,3)	Sum of the Spot PNs (MW) on the Settlemnet Imbalance Period Start Time.
NET INTERCONNECTOR SCHEDULE	NUMBER(8,3)	Net Interconnector schedule
TSO DEMAND FORECAST	NUMBER(8,3)	TSO demand forecast (MW)
TSO RENEWABLE FORECAST (PRIORITY DISPATCH)	NUMBER(8,3)	TSO renewables forecast (for Priority Dispatch Renewable Units)
TSO RENEWABLE FORECAST (NPDR)	NUMBER(8,3)	TSO renewables forecast (for Non-Priority Dispatch Renewable Units)

Table 72: Forecast Imbalance Report

Figure 76: REPT_042: Forecast Imbalance Report - Sample

6.7.3.7 DAILY INTERCONNECTOR NTC REPORT

This report is, by default, run once per day as received from the Coordinated Capacity Calculation process and reports the Net Transfer Capacity (NTC) for each interconnector, for each Trading Period per Trading Day. It is also produced when new NTC values are provided.

I-SEM Report Reference:	*REPT_021, REPT_086, REPT_087*
Data Source	*TSO*
Periodicity:	*On Demand*
Report Name:	*PUB_DailyIntconNTC*
File Names:	*PUB_DailyIntconNTC_YYYYMMDDHHMM.xml*
Report Title:	*Daily Interconnector NTC Report*
Audience:	*Member Public*
Resolution:	*Trading Period*
Time Span:	*Trading Day*
Frequency:	*Event driven for the TD following receipt of new NTC values, following receipt of results from the Co-ordinated Capacity Calculator for TD+1 and TD+2*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
RESOURCE NAME	VARCHAR2(32)	The name of the Interconnector
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time
MAXIMUM IMPORT MW	NUMBER(11,3)	Maximum Import NTC for each Trading Period
MAXIMUM EXPORT MW	NUMBER(11,3)	Maximum Export NTC for each Trading Period

Table 73: Daily Interconnector NTC Report


```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-23T22:00:26" DateType="TRADE" Date="2018-07-24" DatasetType="ON_DEMAND"
DatasetName="PUB_DailyIntconNTC" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyIntconNTC MaximumExportMW="530" MaximumImportMW="500" EndTime="2018-07-23T23:00:00" StartTime="2018-
07-23T22:00:00" DeliveryDate="2018-07-23" ResourceName="I_NIMOYLE" TradeDate="2018-07-24" ROW="1"/>
    <PUB_DailyIntconNTC MaximumExportMW="530" MaximumImportMW="500" EndTime="2018-07-24T00:00:00" StartTime="2018-
07-23T23:00:00" DeliveryDate="2018-07-23" ResourceName="I_NIMOYLE" TradeDate="2018-07-24" ROW="2"/>
    <PUB_DailyIntconNTC MaximumExportMW="530" MaximumImportMW="500" EndTime="2018-07-24T01:00:00" StartTime="2018-
07-24T00:00:00" DeliveryDate="2018-07-24" ResourceName="I_NIMOYLE" TradeDate="2018-07-24" ROW="3"/>
    <PUB_DailyIntconNTC MaximumExportMW="530" MaximumImportMW="500" EndTime="2018-07-24T02:00:00" StartTime="2018-
07-24T01:00:00" DeliveryDate="2018-07-24" ResourceName="I_NIMOYLE" TradeDate="2018-07-24" ROW="4"/>
    <PUB_DailyIntconNTC MaximumExportMW="530" MaximumImportMW="500" EndTime="2018-07-24T03:00:00" StartTime="2018-
07-24T02:00:00" DeliveryDate="2018-07-24" ResourceName="I_NIMOYLE" TradeDate="2018-07-24" ROW="5"/>
```

Figure 77: REPT_021/086/087: Daily Interconnector NTC Report - Sample

6.7.3.8 NET IMBALANCE VOLUME FORECAST REPORT

This report contains the single, total forecasted imbalance volume for the relevant Trading Day, updated every 30 minutes from 13:30 on Trading Day – 1 up to the first Intra-Day Gate Closure for the Trading Day.

I-SEM Report Reference:	*REPT_088*
Periodicity:	*Daily*
Report Name:	*PUB_HrlyNetImbalVolumeForecast*
File Names:	*PUB_HrlyNetImbalVolumeForecast_YYYYMMDDHHMM.xml*
Report Title:	*Net Imbalance Volume Forecast*
Audience:	*Member Public*
Resolution:	*Trading Day)*
Time Span:	*Current Trading Day*
Frequency:	*Every 60 Minutes from 13:30 on Trading Day – 1 up to the first Intra-Day Gate Closure for the Trading Day.*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
NET IMBALANCE FORECAST	NUMBER(11,3)	Forecast Imbalance in MW

Table 74: Net Imbalance Volume Forecast Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T22:00:17" DateType="TRADE" Date="2018-07-24" DatasetType="HOURLY"
  DatasetName="PUB_HrlyNetImbalVolumeForecast" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_HrlyNetImbalVolumeForecast NetImbalanceForecast="53788.635" TradeDate="2018-07-25" ROW="1"/>
</OutboundData>
```

Figure 78: REPT_088: Net Imbalance Volume Forecast Report - Sample

6.7.4 DAILY REPORTS – COD AND TOD

This section details daily TOD and COD reports including:

- Technical Offer Data
- Bid Offer Data
- Forecast Availability
- Commercial Offer Data

6.7.4.1 DAILY TECHNICAL OFFER DATA REPORT

This report details the relevant Technical Offer Data for both Generator Units and Demand Side Units, for the previous Trading Day.

I-SEM Report Reference:	*REPT_011*
Data Source	*Market Participant*
Periodicity:	*Daily*
Report Name:	*PUB_DailyTechnicalOfferData*
File Names:	*PUB_DailyTechnicalOfferData.xml*
Report Title:	*Daily Technical Offer Data Report*
Audience:	*Member Public*
Resolution:	*Trading Day*
Time Span:	*Previous Trading Day (TD-1)*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Settlement Imbalance Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Settlement Imbalance Period End Time
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(4)	Indicates the type of resource for which data is being submitted - permitted values include: GU, DSU
JURISDICTION	VARCHAR2(32)	ROI (Republic of Ireland) or NI (Northern Ireland)

Field Name	Format	Description
FUEL TYPE	VARCHAR2(22)	Fuel type. Possible values are: Oil Gas Peat Wind Biomass CHP Hydro Coal Distillate Nuclear Battery Storage Multi Fuel Pump Storage Fly Wheel Solar Compressed Air Storage Other
PRIORITY DISPATCH YN	CHAR(1)	Indication of unit's priority in the physical market schedule if in a tie to serve marginal demand. (Y/N)
DISPATCHABLE YN	CHAR(1)	Dispatchable flag 'Y' or 'N'
CONTROLLABLE YN	CHAR(1)	Controllable flag 'Y' or 'N'
PUMP STORAGE YN	CHAR(1)	It is a Y/N/Null field. Null for supplier, demand and Interconnector Y for Pumped Storage Unit
ENERGY LIMIT YN	CHAR(1)	Only applicable to Generators
UNDER TEST YN	CHAR(1)	It is a Y/N/Null field. ☐ Null for Unit is not under test ☐ Y for Unit is under test
FIRM ACCESS QUANTITY	NUMBER(8,3)	Total deep connected capacity designation for the unit
NON FIRM ACC QUANTITY	NUMBER(8,3)	Non-firm capacity for a unit in MW, i.e. part of a Generator Unit's Availability that does not have Firm Access.
SHORT TERM MAXIMISATION CAP	NUMBER(8,3)	Capacity above MAXGEN that can be sustained for a finite period of time (MW)
MINIMUM GENERATION	NUMBER(8,3)	Minimum Output of Generator Unit. The lowest value to which a unit can be scheduled.
MAXIMUM GENERATION	NUMBER(8,3)	Maximum stable Generation level in MW.
MINIMUM ON TIME	NUMBER(11,3)	Minimum time that must elapse from the time a Generation Unit is instructed to start-up before it can be instructed to shut down.
MINIMUM OFF TIME	NUMBER(11,3)	Minimum time that a Generation Unit must remain producing no Active Power commencing at the time when it first stops producing no Active Power.
MAXIMUM ON TIME	NUMBER(11,3)	Maximum time that can be elapse from the time a Generation Unit is instructed to start-up and run continuously before it must be instructed to shut down.
HOT COOLING BOUNDARY	NUMBER(5,2)	The duration in hours off load that indicates the standby status change of the unit from Hot to Warm.
WARM COOLING BOUNDARY	NUMBER(5,2)	The duration in hours off load that indicates the standby status change of the unit from Warm to Cold.
SYNCHRONOUS START UP TIME HOT	NUMBER(5,2)	Notification/Start-up times in hour for hot state
SYNCHRONOUS START UP TIME WARM	NUMBER(5,2)	Notification/Start-up times in hour for warm state
SYNCHRONOUS START UP TIME COLD	NUMBER(5,2)	Notification/Start-up times in hour for cold state
BLOCK LOAD COLD	NUMBER(8,3)	Block Loads for Cold state expressed in MW.
BLOCK LOAD HOT	NUMBER(8,3)	Block Loads for Hot state expressed in MW.
BLOCK LOAD WARM	NUMBER(8,3)	Block Loads for Warm state expressed in MW.
LOADING RATE COLD 1	NUMBER(8,3)	First point of Load up rates between load up break points expressed in MW/min for Cold state.
LOADING RATE COLD 2	NUMBER(8,3)	Second point of Load up rates between load up break points expressed in MW/min for Cold state
LOADING RATE COLD 3	NUMBER(8,3)	Third point of Load up rates between load up break points expressed in MW/min for Cold state.
LOAD UP BREAK POINT COLD 1	NUMBER(8,3)	First break points of the cold state load up curve expressed in MW.
LOAD UP BREAK POINT COLD 2	NUMBER(8,3)	Second break points of the cold state load up curve expressed in MW.
LOADING RATE HOT 1	NUMBER(8,3)	First point of Load up rates between load up break points expressed in MW/min for Hot state.
LOADING RATE HOT 2	NUMBER(8,3)	Second point of Load up rates between load up break points expressed in MW/min for Hot state.
LOADING RATE HOT 3	NUMBER(8,3)	Third point of Load up rates between load up break points expressed in MW/min for Hot state.
LOAD UP BREAK POINT HOT 1	NUMBER(8,3)	First break points of the hot state load up curve expressed in MW.

Field Name	Format	Description
LOAD UP BREAK POINT HOT 2	NUMBER(8,3)	Second break points of the hot state load up curve expressed in MW.
LOADING RATE WARM 1	NUMBER(8,3)	First point of Load up rates between load up break points expressed in MW/min for Warm state.
LOADING RATE WARM 2	NUMBER(8,3)	Second point of Load up rates between load up break points expressed in MW/min for Warm state.
LOADING RATE WARM 3	NUMBER(8,3)	Third point of Load up rates between load up break points expressed in MW/min for Warm state.
LOAD UP BREAK POINT WARM 1	NUMBER(8,3)	First break points of the warm state load up curve expressed in MW.
LOAD UP BREAK POINT WARM 2	NUMBER(8,3)	Second break points of the warm state load up curve expressed in MW.
SOAK TIME COLD 1	NUMBER(3)	First point of the Soak Time associated with Trigger point in cold state. Soak times used during start up.
SOAK TIME COLD 2	NUMBER(3)	Second point of the Soak Time associated with Trigger point in cold state. Soak times used during start up.
SOAK TIME TRIGGER POINT COLD 1	NUMBER(8,3)	First trigger points for soak times in Cold state expressed in MW
SOAK TIME TRIGGER POINT COLD 2	NUMBER(8,3)	Second trigger points for soak times in Cold state expressed in MW
SOAK TIME HOT 1	NUMBER(3)	First point of the Soak Time associated with Trigger point in hot state. Soak times used during start up.
SOAK TIME HOT 2	NUMBER(3)	Second point of the Soak Time associated with Trigger point in hot state. Soak times used during start up.
SOAK TIME TRIGGER POINT HOT 1	NUMBER(8,3)	First trigger points for soak times in Hot state expressed in MW
SOAK TIME TRIGGER POINT HOT 2	NUMBER(8,3)	Second trigger points for soak times in Hot state expressed in MW
SOAK TIME WARM 1	NUMBER(3)	First point of the Soak Time associated with Trigger point in warm state. Soak times used during start up.
SOAK TIME WARM 2	NUMBER(3)	Second point of the Soak Time associated with Trigger point in warm state. Soak times used during start up.
SOAK TIME TRIGGER POINT WARM 1	NUMBER(8,3)	First trigger points for soak times in Warm state expressed in MW
SOAK TIME TRIGGER POINT WARM 2	NUMBER(8,3)	Second trigger points for soak times in Warm state expressed in MW
RAMP UP RATE 1	NUMBER(8,3)	First point of Ramp Up Curve (MW/min).
RAMP UP RATE 2	NUMBER(8,3)	Second point of Ramp Up Curve (MW/min).
RAMP UP RATE 3	NUMBER(8,3)	Third point of Ramp Up Curve (MW/min).
RAMP UP RATE 4	NUMBER(8,3)	Fourth point of Ramp Up Curve (MW/min).
RAMP UP RATE 5	NUMBER(8,3)	Fifth point of Ramp Up Curve (MW/min).
RAMP UP BREAK POINT 1	NUMBER(8,3)	First break point of the Ramp Up Curve (MW)
RAMP UP BREAK POINT 2	NUMBER(8,3)	Second break point of the Ramp Up Curve (MW)
RAMP UP BREAK POINT 3	NUMBER(8,3)	Third break point of the Ramp Up Curve (MW)
RAMP UP BREAK POINT 4	NUMBER(8,3)	Fourth break point of the Ramp Up Curve (MW)
DWELL TIME 1	NUMBER(3)	First point of the Dwell Times associated with Trigger point for Dwell Times in MW.
DWELL TIME 2	NUMBER(3)	Second point of the Dwell Times associated with Trigger point for Dwell Times in MW.
DWELL TIME 3	NUMBER(3)	Third point of the Dwell Times associated with Trigger point for Dwell Times in MW.
DWELL TIME TRIGGER POINT 1	NUMBER(8,3)	First trigger points for Dwell times in MW.
DWELL TIME TRIGGER POINT 2	NUMBER(8,3)	Second trigger points for Dwell times in MW.
DWELL TIME TRIGGER POINT 3	NUMBER(8,3)	Third trigger points for Dwell times in MW.
DWELL TIME DOWN 1	NUMBER(3)	First point of the Dwell Times Down associated with Trigger point for Dwell Times Down in MW.
DWELL TIME DOWN 2	NUMBER(3)	Second point of the Dwell Times Down associated with Trigger point for Dwell Times Down in MW.
DWELL TIME DOWN 3	NUMBER(3)	Second point of the Dwell Times Down associated with Trigger point for Dwell Times Down in MW.
DWELL TIME DOWN TRIGGER POINT 1	NUMBER(8,3)	First trigger points for Dwell times Down in MW.
DWELL TIME DOWN TRIGGER POINT 2	NUMBER(8,3)	Second trigger points for Dwell times Down in MW.
DWELL TIME DOWN TRIGGER POINT 3	NUMBER(8,3)	Third trigger points for Dwell times Down in MW.
RAMP DOWN RATE 1	NUMBER(8,3)	Fifth point of Ramp Down Curve (MW/min).
RAMP DOWN RATE 2	NUMBER(8,3)	Fourth point of Ramp Down Curve (MW/min).
RAMP DOWN RATE 3	NUMBER(8,3)	Third point of Ramp Down Curve (MW/min).
RAMP DOWN RATE 4	NUMBER(8,3)	Second point of Ramp Down Curve (MW/min).
RAMP DOWN RATE 5	NUMBER(8,3)	First point of Ramp Down Curve (MW/min).
RAMP DOWN BREAK POINT 1	NUMBER(8,3)	First break point of the Ramp Down Curve (MW)
RAMP DOWN BREAK POINT 2	NUMBER(8,3)	Second break point of the Ramp Down Curve (MW)
RAMP DOWN BREAK POINT 3	NUMBER(8,3)	Third break point of the Ramp Down Curve (MW)
RAMP DOWN BREAK POINT 4	NUMBER(8,3)	Fourth break point of the Ramp Down Curve (MW)
DELOADING RATE 1	NUMBER(8,3)	Second point of the deload rate curve from end point of startup period to deloading break point to zero expressed in MW.

Field Name	Format	Description
DELOADING RATE 2	NUMBER(8,3)	First point of the deload rate curve from end point of startup period to deloading break point to zero expressed in MW.
DELOAD BREAK POINT	NUMBER(8,3)	Deloading break expressed in MW.
MAXIMUM STORAGE CAPACITY	NUMBER(8,3)	Maximum possible capacity that can be produced by a Battery Storage Unit, or by the reservoir for a Pumped Storage Unit (MWh)
MINIMUM STORAGE CAPACITY	NUMBER(8,3)	Minimum possible capacity that can be produced by a Battery Storage Unit, or by the reservoir for a Pumped Storage Unit (MWh)
ESPS STORAGE CYC EFY	NUMBER(3)	Storage Cycle Efficiency for Battery Storage Units, expressed as a percentage value.
PUMPING LOAD CAP	NUMBER(8,3)	The maximum amount of Active Power consumed by a Pumped Storage Unit when in Pumping Mode
ENERGY LIMIT MWH	NUMBER(8,3)	For Energy Limited Unit
FIXED UNIT LOAD	NUMBER(8,3)	Fixed Unit Load (FUL) ≥ 0
UNIT LOAD SCALAR	NUMBER(5,4)	Unit Load Scalar (ULS). 0 < ULS ≤ 1.9999.
DUAL FUEL FLAG	CHAR(1)	Dual Fuel capable flag. The valid values are 'Y' and 'N'
SECONDARY FUEL TYPE	VARCHAR2(22)	Secondary Fuel Type.
MAXIMUM RAMP UP RATE	NUMBER(8,3)	Rate of load increase. Rate of decreasing demand (MW/min). DSU-only field.
MAXIMUM RAMP DOWN RATE	NUMBER(8,3)	Rate of load reduction; Rate of increasing demand (MW/min). DSU-only field.
MINIMUM DOWN TIME	NUMBER(11,3)	Minimum amount of time the demand-side unit can be scheduled to be off (in Hours) DSU-only field.
MAXIMUM DOWN TIME	NUMBER(11,3)	Maximum amount of time the demand-side unit can be scheduled to be off (in Hours) DSU-only field.

Table 75: Daily Technical Offer Data Report - Standard Units

Figure 79: REPT_011: Daily Technical Offer Data Report - Standard Units - Sample

6.7.4.2 COMMERCIAL OFFER DATA REPORT – MEMBER PRIVATE

This report is produced after each Balancing Market Window Gate Closure. It details all Simple Commercial Offer Data and Complex Commercial Offer Data which applies to the relevant Imbalance Settlement Period.

I-SEM Report Reference:	REPT_053
Data Source	MP submissions
Periodicity:	Daily
Report Name:	MP_HlfHrlyCOD
File Names:	MP_HlfHrlyCOD_<PT_NNN>_YYYYMMDDHHMM.xml
Report Title:	Commercial Offer Data
Audience:	Member Private
Resolution:	Imbalance Settlement Period
Time Span:	Half hour
Frequency:	Every Half-Hour
Report Format:	XML

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day

Field Name	Format	Description
PARTICIPANT_NAME	VARCHAR2(12)	Name of the participant.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(32)	Indicates the type of resource for which data is being submitted - permitted values include: GU, DSU, TU, AU, EU, SU, IU, IRCU, CAU, IEU,
JURISDICTION	VARCHAR2(5)	ROI (Republic of Ireland) or NI (Northern Ireland)
BID TYPE	VARCHAR2(6)	Complex/Simple
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time
INCPRICE1	NUMBER(8,2)	INC PQ Pair Price 1
INCQUANTITY1	NUMBER(8,3)	INC PQ Pair Quantity 1
INCPRICE2	NUMBER(8,2)	INC PQ Pair Price 2
INCQUANTITY2	NUMBER(8,3)	INC PQ Pair Quantity 2
INCPRICE3	NUMBER(8,2)	INC PQ Pair Price 3
INCQUANTITY3	NUMBER(8,3)	INC PQ Pair Quantity 3
INCPRICE4	NUMBER(8,2)	INC PQ Pair Price 4
INCQUANTITY4	NUMBER(8,3)	INC PQ Pair Quantity 4
INCPRICE5	NUMBER(8,2)	INC PQ Pair Price 5
INCQUANTITY5	NUMBER(8,3)	INC PQ Pair Quantity 5
INCPRICE6	NUMBER(8,2)	INC PQ Pair Price 6
INCQUANTITY6	NUMBER(8,3)	INC PQ Pair Quantity 6
INCPRICE7	NUMBER(8,2)	INC PQ Pair Price 7
INCQUANTITY7	NUMBER(8,3)	INC PQ Pair Quantity 7
INCPRICE8	NUMBER(8,2)	INC PQ Pair Price 8
INCQUANTITY8	NUMBER(8,3)	INC PQ Pair Quantity 8
INCPRICE9	NUMBER(8,2)	INC PQ Pair Price 9
INCQUANTITY9	NUMBER(8,3)	INC PQ Pair Quantity 9
INCPRICE10	NUMBER(8,2)	INC PQ Pair Price 10
INCQUANTITY10	NUMBER(8,3)	INC PQ Pair Quantity 10
DECPRICE1	NUMBER(8,2)	DEC PQ Pair Price 1
DECQUANTITY1	NUMBER(8,3)	DEC PQ Pair Quantity 1
DECPRICE2	NUMBER(8,2)	DEC PQ Pair Price 2
DECQUANTITY2	NUMBER(8,3)	DEC PQ Pair Quantity 2
DECPRICE3	NUMBER(8,2)	DEC PQ Pair Price 3
DECQUANTITY3	NUMBER(8,3)	DEC PQ Pair Quantity 3
DECPRICE4	NUMBER(8,2)	DEC PQ Pair Price 4
DECQUANTITY4	NUMBER(8,3)	DEC PQ Pair Quantity 4
DECPRICE5	NUMBER(8,2)	DEC PQ Pair Price 5
DECQUANTITY5	NUMBER(8,3)	DEC PQ Pair Quantity 5
DECPRICE6	NUMBER(8,2)	DEC PQ Pair Price 6
DECQUANTITY6	NUMBER(8,3)	DEC PQ Pair Quantity 6
DECPRICE7	NUMBER(8,2)	DEC PQ Pair Price 7
DECQUANTITY7	NUMBER(8,3)	DEC PQ Pair Quantity 7
DECPRICE8	NUMBER(8,2)	DEC PQ Pair Price 8
DECQUANTITY8	NUMBER(8,3)	DEC PQ Pair Quantity 8
DECPRICE9	NUMBER(8,2)	DEC PQ Pair Price 9
DECQUANTITY9	NUMBER(8,3)	DEC PQ Pair Quantity 9
DECPRICE10	NUMBER(8,2)	DEC PQ Pair Price 10
DECQUANTITY10	NUMBER(8,3)	DEC PQ Pair Quantity 10
STARTUP COST HOT	NUMBER(8,2)	Cost to start-up when in hot warmth state. Only applicable for complex (Bid Type "C")
STARTUP COST WARM	NUMBER(8,2)	Cost to start-up when in warm warmth state. Only applicable for complex (Bid Type "C")
STARTUP COST COLD	NUMBER(8,2)	Cost to start-up when in cold warmth state. Only applicable for complex (Bid Type "C")
SHUTDOWN COST	NUMBER(8,2)	Cost to shut-down for Demand Side Unit. Only applicable for complex (Bid Type "C")
NO LOAD COST	NUMBER(8,2)	The element of Operation Cost. Only applicable for complex (Bid Type "C")
PUMP STORAGE CYC EFY	NUMBER(3)	For Pumped Storage Units. Only applicable for complex (Bid Type "C")
OPERATIONAL MINIMUM STORAGE	NUMBER(8,3)	For Battery Storage Units. Only applicable for complex (Bid Type "C")
OPERATIONAL MAXIMUM STORAGE	NUMBER(8,3)	For Battery Storage Units. Only applicable for complex (Bid Type "C")

Table 76: Commercial Offer Data Report – Member Private

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T23:00:05" DateType="TRADE" Date="2018-07-24" DatasetType="HALF_HOURLY"
  DatasetName="MP_HlfHrlyCOD" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <MP_HlfHrlyCOD NoLoadCost="3000.00" StartupCostCold="200000.00" StartupCostWarm="40000.00" StartupCostHot="20000.00"
          DecQuantity3="25" DecPrice3="55.00" DecQuantity2="90" DecPrice2="22.00" DecQuantity1="20" DecPrice1="55.00"
          IncQuantity3="100" IncPrice3="66.00" IncQuantity2="90" IncPrice2="55.00" IncQuantity1="20" IncPrice1="44.00" EndTime="2018-
          07-24T00:00:00" StartTime="2018-07-23T23:30:00" DeliveryDate="2018-07-23" BidType="Complex" Jurisdiction="ROI"
          ResourceType="GEN" ResourceName="GU_000000" ParticipantName="PT_000000" TradeDate="2018-07-24" ROW="1"/>
      <MP_HlfHrlyCOD DecQuantity3="250" DecPrice3="1500.00" DecQuantity2="90" DecPrice2="1000.00" DecQuantity1="20"
          DecPrice1="1000.00" IncQuantity3="250" IncPrice3="2000.00" IncQuantity2="90" IncPrice2="1000.00" IncQuantity1="20"
          IncPrice1="1000.00" EndTime="2018-07-24T00:00:00" StartTime="2018-07-23T23:30:00" DeliveryDate="2018-07-23"
          BidType="Simple" Jurisdiction="ROI" ResourceType="GEN" ResourceName="GU_000000" ParticipantName="PT_000000"
          TradeDate="2018-07-24" ROW="2"/>
```

Figure 80: REPT_053: Commercial Offer Data Report – Member Private - Sample

6.7.4.3 COMMERCIAL OFFER DATA REPORT – MEMBER PUBLIC

This report is produced after the Trading Day, detailing the Simple Commercial Offer Data and Complex Commercial Offer Data, for each Imbalance Settlement Period.

I-SEM Report Reference:	*REPT_013*
Data Source	*MP submissions*
Periodicity:	*Daily*
Report Name:	*PUB_DailyCommercialOfferData*
File Names:	*PUB_DailyCommercialOfferData.xml*
Report Title:	*Commercial Offer Data Report – Member Public*
Audience:	*Member Public*
Resolution:	*Trade Period (23:00 D-1 to 23:00 D)*
Time Span:	*Previous Trading Day*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
PARTICIPANT_NAME	VARCHAR2(12)	Name of the participant.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(4)	Indicates the type of resource for which data is being submitted – permitted values include: GU, DSU,
JURISDICTION	VARCHAR2(5)	ROI (Republic of Ireland) or NI (Northern Ireland)
BID TYPE	VARCHAR2(6)	Complex /Simple
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time
INCPRICE1	NUMBER(8,2)	INC PQ Pair Price 1
INCQUANTITY1	NUMBER(8,3)	INC PQ Pair Quantity 1
INCPRICE2	NUMBER(8,2)	INC PQ Pair Price 2
INCQUANTITY2	NUMBER(8,3)	INC PQ Pair Quantity 2
INCPRICE3	NUMBER(8,2)	INC PQ Pair Price 3
INCQUANTITY3	NUMBER(8,3)	INC PQ Pair Quantity 3
INCPRICE4	NUMBER(8,2)	INC PQ Pair Price 4
INCQUANTITY4	NUMBER(8,3)	INC PQ Pair Quantity 4
INCPRICE5	NUMBER(8,2)	INC PQ Pair Price 5
INCQUANTITY5	NUMBER(8,3)	INC PQ Pair Quantity 5
INCPRICE6	NUMBER(8,2)	INC PQ Pair Price 6
INCQUANTITY6	NUMBER(8,3)	INC PQ Pair Quantity 6
INCPRICE7	NUMBER(8,2)	INC PQ Pair Price 7
INCQUANTITY7	NUMBER(8,3)	INC PQ Pair Quantity 7
INCPRICE8	NUMBER(8,2)	INC PQ Pair Price 8
INCQUANTITY8	NUMBER(8,3)	INC PQ Pair Quantity 8
INCPRICE9	NUMBER(8,2)	INC PQ Pair Price 9
INCQUANTITY9	NUMBER(8,3)	INC PQ Pair Quantity 9

Field Name	Format	Description
INCPRICE10	NUMBER(8,2)	INC PQ Pair Price 10
INCQUANTITY10	NUMBER(8,3)	INC PQ Pair Quantity 10
DECPRICE1	NUMBER(8,2)	DEC PQ Pair Price 1
DECQUANTITY1	NUMBER(8,3)	DEC PQ Pair Quantity 1
DECPRICE2	NUMBER(8,2)	DEC PQ Pair Price 2
DECQUANTITY2	NUMBER(8,3)	DEC PQ Pair Quantity 2
DECPRICE3	NUMBER(8,2)	DEC PQ Pair Price 3
DECQUANTITY3	NUMBER(8,3)	DEC PQ Pair Quantity 3
DECPRICE4	NUMBER(8,2)	DEC PQ Pair Price 4
DECQUANTITY4	NUMBER(8,3)	DEC PQ Pair Quantity 4
DECPRICE5	NUMBER(8,2)	DEC PQ Pair Price 5
DECQUANTITY5	NUMBER(8,3)	DEC PQ Pair Quantity 5
DECPRICE6	NUMBER(8,2)	DEC PQ Pair Price 6
DECQUANTITY6	NUMBER(8,3)	DEC PQ Pair Quantity 6
DECPRICE7	NUMBER(8,2)	DEC PQ Pair Price 7
DECQUANTITY7	NUMBER(8,3)	DEC PQ Pair Quantity 7
DECPRICE8	NUMBER(8,2)	DEC PQ Pair Price 8
DECQUANTITY8	NUMBER(8,3)	DEC PQ Pair Quantity 8
DECPRICE9	NUMBER(8,2)	DEC PQ Pair Price 9
DECQUANTITY9	NUMBER(8,3)	DEC PQ Pair Quantity 9
DECPRICE10	NUMBER(8,2)	DEC PQ Pair Price 10
DECQUANTITY10	NUMBER(8,3)	DEC PQ Pair Quantity 10
STARTUP COST HOT	NUMBER(8,2)	Cost to start-up when in hot warmth state. Only applicable for complex (Bid Type "C")
STARTUP COST WARM	NUMBER(8,2)	Cost to start-up when in warm warmth state. Only applicable for complex (Bid Type "C")
STARTUP COST COLD	NUMBER(8,2)	Cost to start-up when in cold warmth state. Only applicable for complex (Bid Type "C")
SHUTDOWN COST	NUMBER(8,2)	Cost to shut-down for Demand Side Unit. Only applicable for complex (Bid Type "C")
NO LOAD COST	NUMBER(8,2)	The element of Operation Cost. Only applicable for complex (Bid Type "C")
PUMP STORAGE CYC EFY	NUMBER(3)	For Pumped Storage Units. Only applicable for complex (Bid Type "C")
OPERATIONAL MINIMUM STORAGE	NUMBER(8,3)	For Battery Storage Units. Only applicable for complex (Bid Type "C")
OPERATIONAL MAXIMUM STORAGE	NUMBER(8,3)	For Battery Storage Units. Only applicable for complex (Bid Type "C")

Table 77: Commercial Offer Data Report – Member Public

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-25T09:15:01" DateType="TRADE" Date="2018-07-24" DatasetType="DAILY"
DatasetName="PUB_DailyCommercialOfferData" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyCommercialOfferData NoLoadCost="1070" StartupCostCold="8674" StartupCostWarm="7228" StartupCostHot="5782"
        DecQuantity6="87" DecPrice6="0" DecQuantity5="82" DecPrice5="-0.01" DecQuantity4="79" DecPrice4="-0.02"
        DecQuantity3="76" DecPrice3="-0.03" DecQuantity2="69" DecPrice2="-0.04" DecQuantity1="40" DecPrice1="-1000"
        IncQuantity6="87" IncPrice6="61.06" IncQuantity5="82" IncPrice5="55.07" IncQuantity4="79" IncPrice4="49.87"
        IncQuantity3="76" IncPrice3="42.66" IncQuantity2="69" IncPrice2="39.17" IncQuantity1="40" IncPrice1="39.16"
        EndTime="2018-07-23T22:30:00" StartTime="2018-07-23T22:00:00" DeliveryDate="2018-07-23" BidType="Complex"
        Jurisdiction="ROI" ResourceType="GEN" ResourceName="GU_400120" ParticipantName="PT_400024" TradeDate="2018-07-24"
        ROW="1"/>
    <PUB_DailyCommercialOfferData NoLoadCost="1070" StartupCostCold="8674" StartupCostWarm="7228" StartupCostHot="5782"
        DecQuantity6="87" DecPrice6="0" DecQuantity5="82" DecPrice5="-0.01" DecQuantity4="79" DecPrice4="-0.02"
        DecQuantity3="76" DecPrice3="-0.03" DecQuantity2="69" DecPrice2="-0.04" DecQuantity1="40" DecPrice1="-1000"
        IncQuantity6="87" IncPrice6="61.06" IncQuantity5="82" IncPrice5="55.07" IncQuantity4="79" IncPrice4="49.87"
        IncQuantity3="76" IncPrice3="42.66" IncQuantity2="69" IncPrice2="39.17" IncQuantity1="40" IncPrice1="39.16"
        EndTime="2018-07-23T23:00:00" StartTime="2018-07-23T22:30:00" DeliveryDate="2018-07-23" BidType="Complex"
        Jurisdiction="ROI" ResourceType="GEN" ResourceName="GU_400120" ParticipantName="PT_400024" TradeDate="2018-07-24"
        ROW="2"/>
```

Figure 81: REPT_013: Commercial Offer Data Report – Member Public - Sample

6.7.4.4 FORECAST AVAILABILITY REPORT

This report details the forecast availability per Generator Unit and Demand Side Unit for each Trading Period in the previous Trading Day (including wind units).

I-SEM Report Reference:	*REPT_012*
Data Source	*Market Participant*
Periodicity:	*Daily*
Report Name:	*PUB_DailyForecastAvailability*

File Names:	*PUB_DailyForecastAvailability.xml*
Report Title:	*Forecast Availability Report*
Audience:	*Member Public*
Resolution:	*Trading Period*
Time Span:	*At a user-configurable time prior to the start of the Trading Day, for the entire Trading Day*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(4)	Indicates the type of resource for which data is being submitted – permitted values include: GEN and DSU
JURISDICTION	VARCHAR2(5)	ROI (Republic of Ireland) or NI (Northern Ireland)
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time
FORECAST AVAILABILITY	NUMBER(8,3)	Forecast Availability Profile (MW)
FORECAST MINIMUM STABLE GEN	NUMBER(8,3)	Forecast Minimum Stable Generation Profile (MW)
FORECAST MINIMUM OUTPUT	NUMBER(8,3)	Forecast Minimum Output Profile (MW)
FUEL USE FLAG	CHAR(1)	Indicates the fuel use type selected. The valid values are 'P' and 'S' (denoting Primary and Secondary respectively).

Table 78: Forecast Availability Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-23T20:30:01" DateType="TRADE" Date="2018-07-24" DatasetType="DAILY"
DatasetName="PUB_DailyForecastAvailability" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyForecastAvailability ForecastMinimumOutput="0" ForecastMinimumStableGen="40" ForecastAvailability="83"
    EndTime="2018-07-23T22:30:00" StartTime="2018-07-23T22:00:00" DeliveryDate="2018-07-23" Jurisdiction="ROI"
    ResourceType="GEN" ResourceName="GU_400120" ParticipantName="PT_400024" TradeDate="2018-07-24" ROW="1"/>
    <PUB_DailyForecastAvailability ForecastMinimumOutput="0" ForecastMinimumStableGen="40" ForecastAvailability="83"
    EndTime="2018-07-23T23:00:00" StartTime="2018-07-23T22:30:00" DeliveryDate="2018-07-23" Jurisdiction="ROI"
    ResourceType="GEN" ResourceName="GU_400120" ParticipantName="PT_400024" TradeDate="2018-07-24" ROW="2"/>
    <PUB_DailyForecastAvailability ForecastMinimumOutput="0" ForecastMinimumStableGen="40" ForecastAvailability="83"
    EndTime="2018-07-23T23:30:00" StartTime="2018-07-23T23:00:00" DeliveryDate="2018-07-23" Jurisdiction="ROI"
    ResourceType="GEN" ResourceName="GU_400120" ParticipantName="PT_400024" TradeDate="2018-07-24" ROW="3"/>
    <PUB_DailyForecastAvailability ForecastMinimumOutput="0" ForecastMinimumStableGen="40" ForecastAvailability="83"
    EndTime="2018-07-24T00:00:00" StartTime="2018-07-23T23:30:00" DeliveryDate="2018-07-23" Jurisdiction="ROI"
    ResourceType="GEN" ResourceName="GU_400120" ParticipantName="PT_400024" TradeDate="2018-07-24" ROW="4"/>
    <PUB_DailyForecastAvailability ForecastMinimumOutput="0" ForecastMinimumStableGen="40" ForecastAvailability="83"
```

Figure 82: REPT_012: Forecast Availability Report – Sample

6.7.4.5 DAILY STANDING CONVERSION AT MARKET OPEN REPORT

This report details the default Commercial Offer Data and Forecast Availability per Generator Unit and Demand Side Unit that is added to the Gate Window when the Balancing Market Gate Window opens.

I-SEM Report Reference:	*REPT_104*
Data Source	*Market Participant*
Periodicity:	*Daily*
Report Name:	*MP_D_StndConv_GENOFF_all*
File Names:	*MP_D_StndConv_GENOFF_all.xml*
Report Title:	*Daily Standing Conversion at Market Open*
Audience:	*Member Private*

Resolution:	Trading Period
Time Span:	Trading Day
Frequency:	Daily
Report Format:	XML

6.7.4.5.1 COD COMPLEX DETAIL ELEMENT

Field Name	Format	Description
QUANTITY (inc)	NUMBER(8,3)	Incremental P-Q pair quantity
PRICE (inc)	NUMBER(8,2)	Incremental P-Q pair price
QUANTITY (dec)	NUMBER(8,3)	Decremental P-Q pair quantity
PRICE (dec)	NUMBER(8,2)	Decremental P-Q pair price

Table 79: Daily Standing Conversion at Market Open Report: COD Complex Detail Element

6.7.4.5.2 FORECAST AVAILABILTY ELEMENT

Field Name	Format	Description
MAXIMUM MW	NUMBER(8,3)	Forecast Availability Profile (MW)
MINIMUM MW	NUMBER(8,3)	Forecast Minimum Stable Generation Profile (MW)
MINIMUM OUTPUT MW	NUMBER(8,3)	Forecast Minimum Output Profile (MW)

Table 80: Daily Standing Conversion at Market Open Report: Forecast Availability Detail Element

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <bids_offers success="false" xsi:noNamespaceSchemaLocation="mi-market-isem.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instanc
    <processing_statistics xml_time_stamp="2019-01-30T12:00:20.663+00:00" time_stamp="Wed Jan 30 12:00:20 GMT 2019" transaction_id="ZL
        received_count="1"/>
  - <market_submit validation="true" mode="NORMAL" user_name="HORAN_D" participant_name="PT_400024" trading_date="2019-02-18" applica
      <messages/>
    - <sem_gen_offer validation="true" version_no="1.0" standing_flag="false" resource_name="GU_400120">
      - <messages>
          <information>Successfully processed the GeneratorOfferDly.</information>
        </messages>
        <identifier external_id="DSI_TEST"/>
      - <cod_complex_detail>
        - <inc_curve_detail>
            <point quantity="33.33" price="5.33"/>
            <point quantity="60.33" price="21.33"/>
            <point quantity="80.33" price="26.33"/>
          </inc_curve_detail>
        + <dec_curve_detail>
          <startup_cost cold="5404.33" warm="4503.33" hot="3603.33"/>
          <no_load_cost value="934.33"/>
        </cod_complex_detail>
      - <gen_detail end_time="2019-02-17T23:30:00.000+00:00" start_time="2019-02-17T23:00:00.000+00:00">
          <forecast minimum_output_mw="0" minimum_mw="0" maximum_mw="40"/>
        </gen_detail>
      - <gen_detail end_time="2019-02-18T00:00:00.000+00:00" start_time="2019-02-17T23:30:00.000+00:00">
          <forecast minimum_output_mw="0" minimum_mw="0" maximum_mw="40"/>
        </gen_detail>
      - <gen_detail end_time="2019-02-18T00:30:00.000+00:00" start_time="2019-02-18T00:00:00.000+00:00">
          <forecast minimum_output_mw="0" minimum_mw="0" maximum_mw="40"/>
        </gen_detail>
      - <gen_detail end_time="2019-02-18T01:00:00.000+00:00" start_time="2019-02-18T00:30:00.000+00:00">
          <forecast minimum_output_mw="0" minimum_mw="0" maximum_mw="40"/>
        </gen_detail>
      - <gen_detail end_time="2019-02-18T01:30:00.000+00:00" start_time="2019-02-18T01:00:00.000+00:00">
          <forecast minimum_output_mw="0" minimum_mw="0" maximum_mw="40"/>
        </gen_detail>
      - <gen_detail end_time="2019-02-18T02:00:00.000+00:00" start_time="2019-02-18T01:30:00.000+00:00">
```

Figure 83: REPT_104: Daily Standing Conversion at Market Open Report – Sample

6.7.5 DAILY REPORTS – DAM/IDM RESULTS AND PNS

6.7.5.1 AGGREGATED CONTRACTED QUANTITIES FOR GENERATION REPORT

This report contains the aggregated contracted quantities as provided by the SEMOpx for each Imbalance Settlement Period for which the Balancing Market Gate Window is still open in the Trading Day, aggregated across all Generator Units and Demand Side Units.

I-SEM Report Reference:	*REPT_078*
Data Source	*SEMOpx*
Periodicity:	*Daily*
Report Name:	*PUB_HrlyAggContractedQtyGen*
File Names:	*PUB_HrlyAggContractedQtyGen_YYYYMMDDHHMM.xml*
Report Title:	*Aggregated Contracted Quantities for Generation Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*All Imbalance Settlement Periods for which the Balancing Market Gate Window is still open in the Trading Day*
Frequency:	*Once every Hour*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End time
MW	NUMBER(11,3)	Aggregated Contracted Quantities for Generation Units and Demand Side Units only

Table 81: Aggregated Contracted Quantities for Generation Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T01:15:06" DateType="TRADE" Date="2018-07-24" DatasetType="DAILY"
  DatasetName="PUB_HrlyAggContractedQtyGen" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_HrlyAggContractedQtyGen MW="93.6" EndTime="2018-07-24T03:00:00" StartTime="2018-07-24T02:30:00"
      DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="1"/>
    <PUB_HrlyAggContractedQtyGen MW="5049.3" EndTime="2018-07-24T03:30:00" StartTime="2018-07-24T03:00:00"
      DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="2"/>
    <PUB_HrlyAggContractedQtyGen MW="-245.4" EndTime="2018-07-24T04:00:00" StartTime="2018-07-24T03:30:00"
      DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="3"/>
    <PUB_HrlyAggContractedQtyGen MW="5642" EndTime="2018-07-24T04:30:00" StartTime="2018-07-24T04:00:00"
      DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="4"/>
    <PUB_HrlyAggContractedQtyGen MW="-8.5" EndTime="2018-07-24T05:00:00" StartTime="2018-07-24T04:30:00"
      DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="5"/>
```

Figure 84: REPT_078: Aggregated Contracted Quantities for Generation Report - Sample

6.7.5.2 AGGREGATED CONTRACTED QUANTITIES FOR DEMAND REPORT

This report contains the aggregated contracted quantities submitted by the SEMOpx for Imbalance Settlement for each Imbalance Settlement Period for which the Balancing Market Gate Window is still open in the Trading Day, aggregated across all Supplier Units.

I-SEM Report Reference:	*REPT_079*
Data Source	*SEMOpx*
Periodicity:	*Daily*
Report Name:	*PUB_AggContractedQtyDemand*
File Names:	*PUB_AggContractedQtyDemand_YYYYMMDDHHMM.xml*
Report Title:	*Aggregated Contracted Quantities for Demand Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*All Imbalance Settlement Periods for which the Balancing Market Gate Window is still open in the Trading Day*
Frequency:	*Every Hour*

Report Format: XML

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End time
MW	NUMBER(11,3)	Aggregated Contracted Quantities for Supplier Units

Table 82: Aggregated Contracted Quantities for Demand Report


```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T22:15:08" DateType="TRADE" Date="2018-07-24" DatasetType="DAILY"
    DatasetName="PUB_AggContractedQtyDemand" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <PUB_AggContractedQtyDemand MW="278.2" EndTime="2018-07-24T00:00:00" StartTime="2018-07-23T23:30:00"
            DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="1"/>
        <PUB_AggContractedQtyDemand MW="-6309.4" EndTime="2018-07-24T00:30:00" StartTime="2018-07-24T00:00:00"
            DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="2"/>
        <PUB_AggContractedQtyDemand MW="221.6" EndTime="2018-07-24T01:00:00" StartTime="2018-07-24T00:30:00"
            DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="3"/>
        <PUB_AggContractedQtyDemand MW="-6415.9" EndTime="2018-07-24T01:30:00" StartTime="2018-07-24T01:00:00"
            DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="4"/>
        <PUB_AggContractedQtyDemand MW="218.8" EndTime="2018-07-24T02:00:00" StartTime="2018-07-24T01:30:00"
            DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="5"/>
        <PUB_AggContractedQtyDemand MW="-6262.8" EndTime="2018-07-24T02:30:00" StartTime="2018-07-24T02:00:00"
            DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="6"/>
```

Figure 85: REPT_079: Aggregated Contracted Quantities for Demand Report - Sample

6.7.5.3 AGGREGATED CONTRACTED QUANTITIES FOR WIND REPORT

This report contains the aggregated contracted quantities submitted by the SEMOpx for Imbalance Settlement for each Imbalance Settlement Period for which the Balancing Market Gate Window is still open in the Trading Day, aggregated across all Wind Units.

I-SEM Report Reference:	*REPT_080*
Data Source	*SEMOpx*
Periodicity:	*Daily*
Report Name:	*PUB_HrlyAggWindFcst*
File Names:	*PUB_HrlyAggWindFcst_YYYYMMDDHHMM.xml*
Report Title:	*Aggregated Contracted Quantities for Wind Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*All Imbalance Settlement Periods for which the Balancing Market Gate Window is still open in the Trading Day*
Frequency:	*Hourly*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End time
MW	NUMBER(11,3)	Aggregated Contracted Quantities for Wind Units

Table 83: Aggregated Contracted Quantities for Wind Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T00:15:02" DateType="TRADE" Date="2018-07-24" DatasetType="HOURLY"
  DatasetName="PUB_HrlyAggWindFcst" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_HrlyAggWindFcst MW="15.8" EndTime="2018-07-24T02:00:00" StartTime="2018-07-24T01:30:00" DeliveryDate="2018-07-
      24" TradeDate="2018-07-24" ROW="1"/>
    <PUB_HrlyAggWindFcst MW="455.1" EndTime="2018-07-24T02:30:00" StartTime="2018-07-24T02:00:00" DeliveryDate="2018-
      07-24" TradeDate="2018-07-24" ROW="2"/>
    <PUB_HrlyAggWindFcst MW="12.1" EndTime="2018-07-24T03:00:00" StartTime="2018-07-24T02:30:00" DeliveryDate="2018-07-
      24" TradeDate="2018-07-24" ROW="3"/>
    <PUB_HrlyAggWindFcst MW="432.9" EndTime="2018-07-24T03:30:00" StartTime="2018-07-24T03:00:00" DeliveryDate="2018-
      07-24" TradeDate="2018-07-24" ROW="4"/>
```

Figure 86: REPT_080: Aggregated Contracted Quantities for Wind Report - Sample

6.7.5.4 PHYSICAL NOTIFICATIONS REPORT – MEMBER PUBLIC

This report is produced after each Balancing Market Window Gate Closure, detailing the Physical Notifications, Unit Under Test (UUT) flags and associated reasons for each Participant's Generator Units and Demand Side Units as submitted for the Imbalance Settlement Period.

I-SEM Report Reference	*REPT_052*
Data Source	*MP submissions*
Periodicity:	*Half hourly*
Report Name:	*PUB_HlfHrlyPN*
File Names:	*PUB_HlfHrlyPN_YYYYMMDDHHMM.xml*
Report Title:	*Physical Notifications Report Public File*
Audience:	*Member Public*
Resolution:	*Per Physical Notification*
Time Span:	*All Physical Notifications submitted for the Imbalance Settlement Period*
Frequency:	*After each Balancing Market Gate Closure*
Report Format:	*XML*

Field Name	Format	Description
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time of the Profile
START MW	NUMBER(8,3)	Start MW Point
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time of the Profile
END MW	NUMBER(8,3)	End MW Point
UNDER TEST FLG	CHAR(1)	Under Test Flag
REASON	VARCHAR2(255)	Reason for Under Test application

Table 84: Physical Notifications Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T23:00:01" DateType="TRADE" Date="2018-07-24" DatasetType="HALF_HOURLY"
  DatasetName="PUB_HlfHrlyPN" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_HlfHrlyPN Reason="PN" UnderTestFlag="N" EndMW="69" EndTime="2018-07-23T23:30:00" StartMW="76.1"
      StartTime="2018-07-23T23:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ResourceName="GU_400120"
      ParticipantName="PT_400024" ROW="1"/>
    <PUB_HlfHrlyPN Reason="PN" UnderTestFlag="N" EndMW="69" EndTime="2018-07-23T23:30:00" StartMW="76.1"
      StartTime="2018-07-23T23:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ResourceName="GU_400121"
      ParticipantName="PT_400024" ROW="2"/>
    <PUB_HlfHrlyPN Reason="null" UnderTestFlag="N" EndMW="385.2" EndTime="2018-07-24T22:00:00" StartMW="400"
      StartTime="2018-07-23T22:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ResourceName="GU_400930"
      ParticipantName="PT_400028" ROW="3"/>
```

Figure 87: REPT_052: Physical Notifications Report – Sample

6.7.5.5 FINAL PHYSICAL NOTIFICATIONS REPORT

This report details the Final Physical Notifications submitted by Generator and Demand Side Units in the previous Trading Day.

I-SEM Report Reference:	*REPT_089*
Data Source	*MP submissions*
Periodicity:	*Daily*
Report Name:	*PUB_DailyFinalPhysicalNotifications*
File Names:	*PUB_DailyFinalPhysicalNotifications.xml*
Report Title:	*Final Physical Notifications Report*
Audience:	*Member Public*
Resolution:	*Per Physical Notification*
Time Span:	*Previous Trading Day*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time of the Profile
START MW	NUMBER(8,3)	Start MW Point
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time of the Profile
END MW	NUMBER(8,3)	End MW Point
UNDER TEST FLG	CHAR(1)	Under Test Flag
REASON	VARCHAR2(255)	Reason for Under Test application

Table 85: Final Physical Notifications Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-25T09:15:01" DateType="TRADE" Date="2018-07-24" DatasetType="DAILY"
  DatasetName="PUB_DailyFinalPhysicalNotifications" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyFinalPhysicalNotifications Reason="PN" UnderTestFlag="N" EndMW="76.1" EndTime="2018-07-23T22:30:00"
      StartMW="40" StartTime="2018-07-23T22:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24"
      ResourceName="GU_400120" ParticipantName="PT_400024" ROW="1"/>
    <PUB_DailyFinalPhysicalNotifications Reason="PN" UnderTestFlag="N" EndMW="76.1" EndTime="2018-07-23T23:00:00"
      StartMW="76.1" StartTime="2018-07-23T22:30:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24"
      ResourceName="GU_400120" ParticipantName="PT_400024" ROW="2"/>
    <PUB_DailyFinalPhysicalNotifications Reason="PN" UnderTestFlag="N" EndMW="69" EndTime="2018-07-23T23:30:00"
      StartMW="76.1" StartTime="2018-07-23T23:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24"
      ResourceName="GU_400120" ParticipantName="PT_400024" ROW="3"/>
```
Figure 88: REPT_089: Final Physical Notifications Report - Sample

6.7.5.6 AGGREGATED FINAL PHYSICAL NOTIFICATIONS REPORT

This report details the aggregated Final Physical Notifications submitted by Generator and Demand Side Units for the Imbalance Settlement Period (one report published for each ISP).

I-SEM Report Reference:	*REPT_077*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_HlfHrlyAggregatedPN*
File Names:	*PUB_HlfHrlyAggregatedPN_YYYYMMDDHHMM.xml*
Report Title:	*Aggregated Final Physical Notifications Report*

Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Relevant Imbalance Settlement Period*
Frequency:	*After each Balancing Market Gate Closure*
Report Format:	*XML, CSV*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time of the aggregated profile segment
START MW AGGREGATED PN	NUMBER(8,3)	Start MW of Aggregated Physical Notification
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time of the aggregated profile segment
END MW AGGREGATED PN	NUMBER(8,3)	End MW of Aggregated Physical Notification

Table 86: Aggregated Physical Notifications Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T22:00:01" DateType="TRADE" Date="2018-07-24" DatasetType="HALF_HOURLY"
    DatasetName="PUB_HlfHrlyAggregatedPN" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <PUB_HlfHrlyAggregatedPN EndMWAggregatedPN="2102.361" StartMWAggregatedPN="2134.77" EndTime="2018-07-23T22:30:00"
            StartTime="2018-07-23T22:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-24" ROW="1"/>
</OutboundData>
```

Figure 89: REPT_077: Aggregated Physical Notifications Report – Sample

6.7.6 DAILY REPORTS – OPERATIONAL SCHEDULES

6.7.6.1 LTS OPERATIONAL SCHEDULE REPORT, MEMBER PUBLIC

This report contains the LTS Operational Schedules all Generator Units and Demand Side Units.

I-SEM Report Reference:	*REPT_001b*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_LTSDOperationalSchedule*
File Names:	*PUB_LTSDOperationalSchedule_YYYYMMDDHHMM.xml*
Report Title:	*LTS Operational Schedule Report, Member Public*
Audience:	*Member Public*
Resolution:	*Half Hourly*
Time Span:	*Optimisation Time Horizon of individual LTS run*
Frequency:	*Automatically, after approval of each LTS Operational Schedule Run*
Format:	*XML*

Field Name	Format	Description
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Timestamp corresponding to the approved LTS run
PARTICIPANT NAME	VARCHAR2(12)	Participant Name
RESOURCE NAME	VARCHAR2(32)	Name of Generating Unit or Demand Side Unit
RESOURCE TYPE	VARCHAR2(4)	Type of Resource
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Date/Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Date/Time
SCHEDULED QUANTITY	NUMBER(8,3)	Operational Schedule Quantity (MW)
RUN TYPE	CHAR(4)	LTSD

Table 87: LTS Operational Schedule Report – Member Public

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-23T20:09:31" DateType="TRADE" Date="2018-07-24" DatasetType="HOURLY"
DatasetName="PUB_LTSDOperationalSchedule" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_LTSDOperationalSchedule PublishTime="2018-07-23T21:30:00" RunType="LTSD" ScheduledQuantity="0" EndTime="2018-07-
23T22:30:00" StartTime="2018-07-23T22:00:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="IU"
ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="1"/>
    <PUB_LTSDOperationalSchedule PublishTime="2018-07-23T21:30:00" RunType="LTSD" ScheduledQuantity="0" EndTime="2018-07-
23T23:00:00" StartTime="2018-07-23T22:30:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="IU"
ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="2"/>
    <PUB_LTSDOperationalSchedule PublishTime="2018-07-23T21:30:00" RunType="LTSD" ScheduledQuantity="0" EndTime="2018-07-
23T23:30:00" StartTime="2018-07-23T23:00:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="IU"
ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="3"/>
    <PUB_LTSDOperationalSchedule PublishTime="2018-07-23T21:30:00" RunType="LTSD" ScheduledQuantity="0" EndTime="2018-07-
24T00:00:00" StartTime="2018-07-23T23:30:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="IU"
ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="4"/>
```

Figure 90: REPT_001b: LTS Operational Schedule Report – Member Public - Sample

6.7.6.2 RTIC OPERATIONAL SCHEDULE REPORT, MEMBER PUBLIC

The report contains the RTIC Operational Schedules for all Generator Units and Demand Side Units.

I-SEM Report Reference:	*REPT_002b*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_RTCOperationalSchedule*
File Names:	*PUB_RTCOperationalSchedule_YYYYMMDDHHMM.xml*
Report Title:	*RTIC Operational Schedule Report, Member Public*
Audience:	*Member Public*
Resolution:	*15 mins*
Time Span:	*Optimisation Time Horizon for all RTC Operational Schedule Runs*
Frequency:	*Automatically, after approval of each RTC Operational Schedule*
Format:	*XML*

Field Name	Format	Description
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Timestamp corresponding to the approved RTC run
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	Name of Generating Unit or Demand side Unit
RESOURCE TYPE	VARCHAR2(4)	Type of Resource
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Date/Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Date/Time
SCHEDULED QUANTITY	NUMBER(8,3)	Operational Schedule Quantity (MW)
RUN TYPE	CHAR(3)	RTC

Table 88: RTIC Operational Schedule Report – Member Public

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-23T21:32:16" DateType="TRADE" Date="2018-07-24" DatasetType="SUB_HOURLY"
DatasetName="PUB_RTCOperationalSchedule" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_RTCOperationalSchedule PublishTime="2018-07-23T21:50:00" RunType="RTC" ScheduledQuantity="0" EndTime="2018-07-
23T22:15:00" StartTime="2018-07-23T22:00:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="IU"
ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="1"/>
    <PUB_RTCOperationalSchedule PublishTime="2018-07-23T21:50:00" RunType="RTC" ScheduledQuantity="0" EndTime="2018-07-
23T22:30:00" StartTime="2018-07-23T22:15:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="IU"
ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="2"/>
    <PUB_RTCOperationalSchedule PublishTime="2018-07-23T21:50:00" RunType="RTC" ScheduledQuantity="0" EndTime="2018-07-
23T22:45:00" StartTime="2018-07-23T22:30:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="IU"
ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="3"/>
    <PUB_RTCOperationalSchedule PublishTime="2018-07-23T21:50:00" RunType="RTC" ScheduledQuantity="35.49" EndTime="2018-
07-23T23:00:00" StartTime="2018-07-23T22:45:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23"
ResourceType="IU" ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" ROW="4"/>
```

Figure 91: REPT_002b: RTIC Operational Schedule Report – Member Public - Sample

6.7.6.3 RTID OPERATIONAL SCHEDULE REPORT, MEMBER PRIVATE

The report contains the RTID Operational Schedules for Generator Units and Demand Side Units registered to the relevant Participant.

I-SEM Report Reference:	*REPT_003a*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*MP_RTDOperationalSchedule_PT_TD*
File Names:	*MP_RTDOperationalSchedule_PT_000000__YYYYMMDDHHMM.xml*
Report Title:	*RTID Operational Schedule Report, Member Private*
Audience:	*Member Private*
Resolution:	*5 minutes*
Time Span	*Optimisation Time Horizon for all RTD Operational Schedule Runs*
Frequency:	*Automatically, after approval of each RTD Operational Schedule Run*
Format:	*XML*

Field Name	Format	Description
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Timestamp of corresponding approved RTD run
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	Name of Generating Unit or Demand side Unit
RESOURCE TYPE	VARCHAR2(4)	Type of Resource
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Date/Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Date/Time
SCHEDULED QUANTITY	NUMBER(8,3)	Operational Schedule Quantity (MW)
RUN TYPE	CHAR(3)	RTD

Table 89a: RTID Operational Schedule Report, Member Private

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T21:51:58" DateType="TRADE" Date="2018-07-24" DatasetType="HOURLY"
  DatasetName="MP_RTDOperationalSchedule" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <MP_RTDOperationalSchedule PublishTime="2018-07-23T21:56:00" RunType="RTD" ScheduledQuantity="0" EndTime="2018-07-
    23T22:05:00" StartTime="2018-07-23T22:00:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="GEN"
    ResourceName="GU_000000" ParticipantName="PT_000000" ROW="1"/>
    <MP_RTDOperationalSchedule PublishTime="2018-07-23T21:56:00" RunType="RTD" ScheduledQuantity="0" EndTime="2018-07-
    23T22:10:00" StartTime="2018-07-23T22:05:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="GEN"
    ResourceName="GU_000000" ParticipantName="PT_000000" ROW="2"/>
    <MP_RTDOperationalSchedule PublishTime="2018-07-23T21:56:00" RunType="RTD" ScheduledQuantity="0" EndTime="2018-07-
    23T22:15:00" StartTime="2018-07-23T22:10:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="GEN"
    ResourceName="GU_000000" ParticipantName="PT_000000" ROW="3"/>
    <MP_RTDOperationalSchedule PublishTime="2018-07-23T21:56:00" RunType="RTD" ScheduledQuantity="0" EndTime="2018-07-
    23T22:20:00" StartTime="2018-07-23T22:15:00" TradeDate="2018-07-24" DeliveryDate="2018-07-23" ResourceType="GEN"
    ResourceName="GU_000000" ParticipantName="PT_000000" ROW="4"/>
```

Figure 92a: REPT_003a: RTID Operational Schedule Report, Member Private - Sample

6.7.6.4 RTID OPERATIONAL SCHEDULE REPORT, MEMBER PUBLIC

The report contains the RTID Operational Schedules for all Generator Units and Demand Side Units.

I-SEM Report Reference:	*REPT_003b*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_RTDOperationalSchedule*
File Names:	*PUB_RTDOperationalSchedule.xml*
Report Title:	*RTID Operational Schedule Report, Member Public*
Audience:	*Member Public*
Resolution:	*5 minutes*
Time Span	*Optimisation Time Horizon for all RTD Operational Schedule Runs*
Frequency:	*Once per day*
Format:	*XML*

Field Name	Format	Description
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Timestamp corresponding to the approved RTD run
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	Name of Generating Unit or Demand side Unit
RESOURCE TYPE	VARCHAR2(4)	Type of Resource
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Date/Time

Field Name	Format	Description
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Date/Time
SCHEDULED QUANTITY	NUMBER(8,3)	Operational Schedule Quantity (MW)
RUN TYPE	CHAR(3)	RTD

Table 90b: RTID Operational Schedule Report, Member Public

Figure 97b: REPT_003b: RTID Operational Schedule Report, Member Public - Sample

6.7.6.5 RTID MERIT ORDER LIST SCHEDULE REPORT, MEMBER PRIVATE

The report comprises of the Merit Order List details for all Generator Units and Demand Side Units. The publication of this report is triggered by the approved RTD runs.

I-SEM Report Reference:	*REPT_004*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*MP_RTD_MOLSchedule*
File Names:	*MP_RTD_MOLSchedule_PT_000000__YYYYMMDDHHMM.xml*
Report Title:	*RTID Merit Order List Report, Member Private*
Audience:	*Member Private*
Resolution:	*5 minutes*
Time Span	*1 Hour*
Frequency:	*Automatically, after approval of each RTD Operational Schedule Run every 5 minutes*
Format:	*XML*

Field Name	Format	Description
MOL CURVE TYPE	VARCHAR2(12)	MOL Curve Type
MAX AVAILABLE	NUMBER(8,3)	Maximum Available
EMS UNIT NAME	VARCHAR2(12)	EMS Unit Name
EDIL NAME	VARCHAR2(12)	EDIL Name
CURRENT DI	NUMBER(8,3)	Current Dispatch Instructions
MIN DISPATCH QUANTITY	NUMBER(8,3)	Minimum Dispatch Quantity
MAX DISPATCH QUANTITY	NUMBER(8,3)	Maximum Dispatch Quantity
ACTUAL MW OUTPUT	NUMBER(8,3)	Actual MW Output
PN	NUMBER(8,3)	Physical Notification
MW RANGE FROM	NUMBER(8,3)	MW Range From
MW RANGE TO	NUMBER(8,3)	MW Range To
PRICE	NUMBER(8,2)	Price
REMAINING EXPORT	NUMBER(8,3)	Remaining Export Energy (MWh)
REMAINING IMPORT	NUMBER(8,3)	Remaining Export Energy (MWh)
JURISDICTION	VARCHAR2(5)	Jurisdiction
RESOURCE TYPE	VARCHAR2(4)	Type of Resource
RESOURCE NAME	VARCHAR2(32)	Name of the Resource
STATION NAME	VARCHAR2(32)	Station Name
STATION ID	VARCHAR2(32)	Station ID
FOLLOW PN FLAG	VARCHAR2(1)	Follow PN Flag
CHARGE STATE	NUMBER(3,2)	% State Of Charge (SoC)
NPDR FLAG	VARCHAR2(1)	NPDR Flag
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Timestamp corresponding to the approved RTD run

Table 90: RTID MOL Schedule Report, Member Private

```
<?xml version="1.0"?>
- <OutboundData xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd" DatasetName="MP_RTDMOLSchedule"
DatasetType="HOURLY" Date="2018-02-01" DateType="TRADE" PublishTime="2018-02-01T09:49:04">
<MP_RTDMOLSchedule ROW="1" PublishTime="2018-02-01T09:51:00" MOLCruveType="INCREMENTAL" MaxAvailable="123.111" EMSUnitName="NPDR_AB123" EDILUnitName="AB12NPDR"
CurrentDI="12.123" MinDispatchQuantity="0.123" MaxDispatchQuantity="22.123" ActualOutput="17.123" PN="12.123" MWRangeFrom="10.123" MWRangeTo="17.123" Price="98.12"
RemainingExport="0" RemainingImport="0" Jurisdiction="ROI" ResourceType="GEN" ResourceName="GU_400123" StationName="NonPriorityRenewable1" StationID="NPDR1" FollowPNFlag="N"
StateOfCharge="0" NPDRFlag="Y"/>
</OutboundData>
```

Figure 93: REPT_004: RTID MOL Schedule Report, Member Private - Sample

6.7.7 DAILY REPORTS – IMBALANCES

6.7.7.1 SYSTEM SHORTFALL IMBALANCE INDEX & FLATTENING FACTOR

This report contains the calculated System Shortfall Imbalance Index (the ratio of the energy shortfall divided by the total forecast energy demand for this Trading Day) and the System Imbalance Flattening Factor (a factor used to determine adjusted startup costs for use in the Operational Schedule Runs).

I-SEM Report Reference:	*REPT_084/ REPT_085*
Data Source	*TSO*
Periodicity	*Daily*
Report Name:	*PUB_HrlySsiiSiff*
File Names:	*PUB_HrlySsiiSiff_YYYYMMDDHHMM.xml*
Report Title:	*System Shortfall Imbalance Index and Flattening Factor*
Audience:	*Member Public*
Resolution:	*Trading Day*
Time Span	*Trading Day*
Frequency:	*Hourly up to the first IDM Gate Closure for the Trading Day*
Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
SSII	NUMBER(8,3)	System Shortfall Imbalance Index
SIFF	NUMBER(8,3)	System Imbalance Flattening Factor

Table 91: Daily Shortfall Imbalance Index & Flattening Factor Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T22:00:18" DateType="TRADE" Date="2018-07-23" DatasetType="HOURLY"
DatasetName="PUB_HrlySsiiSiff" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_HrlySsiiSiff Siff="2.2" Ssii="0.336" TradeDate="2018-07-24" ROW="1"/>
</OutboundData>
```

Figure 94: REPT_084, REPT_085: Daily Shortfall Imbalance Index & Flattening Factor Report - Sample

6.7.7.2 IMBALANCE PRICE REPORT (IMBALANCE PRICING PERIOD)

This report contains the Imbalance Price and quantity for BOA (QBOA/PBOA) based on the schedule outputs from RTD runs and real time dispatch instructions for the Imbalance Pricing Period. The report is published at the end of each Imbalance Price calculation process for the corresponding Imbalance Pricing Period.

I-SEM Report Reference:	*REPT_008*
Data Source	*RT IMBP Application*
Periodicity:	*Daily*
Report Name:	*PUB_5MinImbalPrc*
File Names:	*PUB_5MinImbalPrc_YYYYMMDDHHMM.xml*
Report Title:	*Imbalance Price Report*
Audience:	*Member Public*
Resolution:	*Imbalance Pricing Period*
Time Span:	*Imbalance Pricing Period*

Frequency:	*End of imbalance price calculation process for the corresponding Imbalance Pricing Period*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time of the Imbalance Price Period
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the Imbalance Price Period
NET IMBALANCE VOLUME	NUMBER(8,3)	Net Imbalance Volume
DEFAULT PRICE USAGE	CHAR(1)	Default price used 'Y' or 'N'
ASP PRICE USAGE	CHAR(1)	Administered Scarcity Price Used 'Y' or 'N'
TOTAL UNIT AVAILABILITY	NUMBER(8,3)	Total Availability of all Units
DEMAND CONTROL VOLUME	NUMBER(8,3)	Demand Control Volume
PMEA	NUMBER(8,2)	Price of the Marginal Energy Action in EUR
QPAR	NUMBER(8,3)	Quantity Price Average Reference
ADMINISTERED SCARCITY PRICE	NUMBER(8,2)	Administered Scarcity Price in EUR
IMBALANCE PRICE	NUMBER(8,2)	Imbalance Price in EUR for the Imbalance Pricing Period
MARKET BACKUP PRICE	NUMBER(8,2)	Market Backup Price applicable for the Imbalance Settlement Period.
SHORT TERM RESERVE QUANTITY	NUMBER(8,3)	Short Term Reserve Quantity
OPERATING RESERVE REQUIREMENT	NUMBER(8,3)	Operating Reserve Requirement

Table 92: Imbalance Price Report (Imbalance Pricing Period)

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T05:53:30" DateType="TRADE" Date="2018-07-24" DatasetType="SUB_HOURLY"
  DatasetName="PUB_5MinImbalPrc" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_5MinImbalPrc OperatingReserveRequirement="474.12" ShortTermReserveQuantity="3589.37" MarketBackupPrice="49.36"
      AdministeredScarcityPrice="-1000" QPAR="10" PMEA="-0.08" DemandControlVolume="0" TotalUnitAvailability="8187.206"
      ASPPriceUsage="N" DefaultPriceUsage="N" ImbalancePrice="-0.08" NetImbalanceVolume="43.291" EndTime="2018-07-
      24T05:35:00" StartTime="2018-07-24T05:30:00" TradeDate="2018-07-24" ROW="1"/>
  </OutboundData>
```

Figure 95: REPT_008: Imbalance Price Report (Imbalance Pricing Period) - Sample

6.7.7.3 IMBALANCE PRICE REPORT (IMBALANCE SETTLEMENT PERIOD)

This report contains the time weighted average Imbalance Price and net Imbalance Volume for each Trading Period (Imbalance Settlement Period). The report is published once after the end of each imbalance settlement period on the Trading Day.

I-SEM Report Reference:	*REPT_009*
Data Source	*RT IMBP Application*
Periodicity:	*Daily*
Report Name:	*PUB_30MinAvgImbalPrc*
File Names:	*PUB_30MinAvgImbalPrc_YYYYMMDDHHMM.xml*
Report Title:	*Imbalance Price Report (Imbalance Settlement Period)*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Previous Imbalance Settlement Period*
Frequency:	*Imbalance Settlement Period*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(HH:MM:SS)	Imbalance settlement period Start time
END TIME	TIME(HH:MM:SS)	Imbalance settlement period End time
NET IMBALANCE VOLUME	NUMBER(8,3)	Quantity of the Net Imbalance volume (QNIV) for the Imbalance Settlement Period
IMBALANCE SETTLEMENT PRICE	NUMBER(8,2)	Calculated average time weighted imbalance price for the Imbalance Settlement Period (PIMB)

Table 93: Imbalance Price Report (Imbalance Settlement Period)

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T13:30:25" DateType="TRADE" Date="2018-07-24" DatasetType="HALF_HOURLY"
  DatasetName="PUB_30MinAvgImbalPrc" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_30MinAvgImbalPrc ImbalanceSettlementPrice="82.4" NetImbalanceVolume="129.709" EndTime="2018-07-24T13:00:00"
        StartTime="2018-07-24T12:30:00" TradeDate="2018-07-24" ROW="1"/>
  </OutboundData>
```

Figure 96: REPT_009: Imbalance Price Report (Imbalance Settlement Period) – Sample

6.7.7.4 IMBALANCE PRICE SUPPORTING INFORMATION REPORT

This report contains the real time Imbalance Price and Quantity for BOA (QBOA/PBOA) based on the schedule outputs from RTID runs and real time dispatch instructions for each five minute interval. This report is available to all the Participants. This report is after every Imbalance Pricing run.

I-SEM Report Reference:	REPT_050
Data Source	Balancing Market Runs
Periodicity:	Daily
Report Name:	PUB_5MinImbalPrcSuppInfo
File Names:	PUB_5MinImbalPrcSuppInfo_YYYYMMDDHHMM.xml
Report Title:	Imbalance Price Supporting Information Report
Audience:	Member Public
Resolution:	Imbalance Pricing Period
Time Span:	Previous Imbalance Pricing Period
Frequency:	End of Imbalance Price calculation process for the corresponding Imbalance Pricing Period
Report Format:	XML

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time of the Imbalance Pricing Period
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the Imbalance Pricing Period
PARTICIPANT NAME	VARCHAR2(12)	Participant Name
RESOURCE NAME	VARCHAR2(32)	Resource Name
PBOA	NUMBER(8,2)	PBOA
QBOA	NUMBER(8,3)	QBOA
RANK	NUMBER(10)	Rank of QBOA/PBOA
NON ENERGY FLAGS	NUMBER(1)	Non-Energy Flags (multiple entries as required with associated identifiers)
CONSTRAINT_ID	VARCHAR(20)	The Constraint ID associated with that unit, only present if there is a duplicate rank
SO FLAG	NUMBER(1)	SO flag (multiple entries as required with associated identifiers)
EMERGENCY_FLAG	NUMBER(1)	Emergency Flag
IMBALANCE PRICE FLAG	NUMBER(1)	Imbalance Price Flag
NET IMBALANCE VOLUME	NUMBER(8,3)	Net Imbalance Volume
PRICE AVERAGE REFERENCE TAG	NUMBER(8,2)	Price Average Reference Tag
NET IMBALANCE VOLUME TAG	NUMBER(8,3)	Net Imbalance Volume Tag
NON MARGINAL FLAG	NUMBER(1)	Non Marginal Flag
IMBALANCE PRICE TAG	NUMBER(8,2)	Imbalance Price Tag

Table 94: Imbalance Price Supporting Information Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-10-31T15:57:17" DateType="TRADE" Date="2018-10-31" DatasetType="SUB_HOURLY"
    DatasetName="PUB_5MinImbalPrcSuppInfo" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <PUB_5MinImbalPrcSuppInfo NetImbalanceVolume="33.505" PriceAverageReferenceTag="0" ImbalancePriceTag="0"
            NetImbalanceVolumeTag="0" ImbalancePriceFlag="0" NonMarginalFlag="0" EmergencyFlag="1" SoFlag="1" Rank="35"
            QBOA="1.75" PBOA="327.66" ResourceName="GU_400311" ParticipantName="PT_400030" EndTime="2018-10-
            31T15:40:00" StartTime="2018-10-31T15:35:00" TradeDate="2018-10-31" ROW="1"/>
        <PUB_5MinImbalPrcSuppInfo NetImbalanceVolume="33.505" PriceAverageReferenceTag="0" ImbalancePriceTag="0"
            NetImbalanceVolumeTag="0" ImbalancePriceFlag="0" NonMarginalFlag="0" EmergencyFlag="1" SoFlag="1" Rank="31"
            QBOA="2.077" PBOA="89.4" ResourceName="GU_400324" ParticipantName="PT_400030" EndTime="2018-10-
            31T15:40:00" StartTime="2018-10-31T15:35:00" TradeDate="2018-10-31" ROW="2"/>
        <PUB_5MinImbalPrcSuppInfo NetImbalanceVolume="33.505" PriceAverageReferenceTag="0" ImbalancePriceTag="0"
            NetImbalanceVolumeTag="0" ImbalancePriceFlag="0" NonMarginalFlag="0" EmergencyFlag="1" SoFlag="1" Rank="32"
            QBOA="10.007" PBOA="89.4" ResourceName="GU_400324" ParticipantName="PT_400030" EndTime="2018-10-
            31T15:40:00" StartTime="2018-10-31T15:35:00" TradeDate="2018-10-31" ROW="3"/>
        <PUB_5MinImbalPrcSuppInfo NetImbalanceVolume="33.505" PriceAverageReferenceTag="1" ImbalancePriceTag="1"
            NetImbalanceVolumeTag="1" ImbalancePriceFlag="1" NonMarginalFlag="1" EmergencyFlag="1" SoFlag="1" Rank="33"
            QBOA="4.583" PBOA="98.6" ResourceName="GU_400324" ParticipantName="PT_400030" EndTime="2018-10-
            31T15:40:00" StartTime="2018-10-31T15:35:00" TradeDate="2018-10-31" ROW="4"/>
        <PUB_5MinImbalPrcSuppInfo NetImbalanceVolume="33.505" PriceAverageReferenceTag="0" ImbalancePriceTag="0"
            NetImbalanceVolumeTag="0" ImbalancePriceFlag="0" NonMarginalFlag="0" EmergencyFlag="1" SoFlag="0" Rank="13"
            QBOA="-1.333" PBOA="52.65" ResourceName="GU_400480" ParticipantName="PT_400035" EndTime="2018-10-
            31T15:40:00" StartTime="2018-10-31T15:35:00" TradeDate="2018-10-31" ROW="5" ConstraintId="S_PRM_TOT"
            NonEnergyFlags="0"/>
        <PUB_5MinImbalPrcSuppInfo NetImbalanceVolume="33.505" PriceAverageReferenceTag="0" ImbalancePriceTag="0"
            NetImbalanceVolumeTag="0" ImbalancePriceFlag="0" NonMarginalFlag="1" EmergencyFlag="1" SoFlag="0" Rank="14"
            QBOA="-0.75" PBOA="53.99" ResourceName="GU_400480" ParticipantName="PT_400035" EndTime="2018-10-
            31T15:40:00" StartTime="2018-10-31T15:35:00" TradeDate="2018-10-31" ROW="6" ConstraintId="S_PRM_TOT"
            NonEnergyFlags="0"/>
```

Figure 97: REPT_050: Imbalance Price Supporting Information Report - Sample

Constraint Type	Constraint ID	Test Type	Notes
PRM	S_PRM_TOT	OR	System wide primary operating reserve constraint
PRM	S_PRM_ROI	OR	ROI jurisdiction primary operating reserve constraint
PRM	S_PRM_NI	OR	NI jurisdiction primary operating reserve constraint
SEC	S_SEC_TOT	OR	System wide secondary operating reserve constraint
SEC	S_SEC_ROI	OR	ROI jurisdiction secondary operating reserve constraint
SEC	S_SEC_NI	OR	NI jurisdiction secondary operating reserve constraint
TR1	S_TR1_TOT	OR	System wide tertiary 1 operating reserve constraint
TR1	S_TR1_ROI	OR	ROI jurisdiction tertiary 1 operating reserve constraint
TR1	S_TR1_NI	OR	NI jurisdiction tertiary 1 operating reserve constraint
TR2	S_TR2_TOT	OR	System wide tertiary 2 operating reserve constraint
TR2	S_TR2_ROI	OR	ROI jurisdiction tertiary 2 operating reserve constraint
TR2	S_TR2_NI	OR	NI jurisdiction tertiary 2 operating reserve constraint
FFR	S_FFR_TOT	OR	System wide fast frequency response constraint
FFR	S_FFR_ROI	OR	ROI jurisdiction fast frequency response constraint
FFR	S_FFR_NI	OR	NI jurisdiction fast frequency response constraint
NRR	S_NEG_TOT	OR	System wide negative ramping reserve constraint
NRR	S_NEG_ROI	OR	ROI jurisdiction negative ramping reserve constraint
NRR	S_NEG_NI	OR	NI jurisdiction negative ramping reserve constraint
REP	S_REP_TOT	OR	System wide replacement reserve constraint
REP	S_REP_ROI	OR	ROI jurisdiction replacement reserve constraint
REP	S_REP_NI	OR	NI jurisdiction replacement reserve constraint
RM1	S_RM1_TOT	OR	System wide ramp margin 1 constraint
RM1	S_RM1_ROI	OR	ROI jurisdiction ramp margin 1 constraint
RM1	S_RM1_NI	OR	NI jurisdiction ramp margin 1 constraint
RM3	S_RM3_TOT	OR	System wide ramp margin 3 constraint
RM3	S_RM3_ROI	OR	ROI jurisdiction ramp margin 3 constraint
RM3	S_RM3_NI	OR	NI jurisdiction ramp margin 3 constraint
RM8	S_RM8_TOT	OR	System wide ramp margin 8 constraint
RM8	S_RM8_ROI	OR	ROI jurisdiction ramp margin 8 constraint
RM8	S_RM8_NI	OR	NI jurisdiction ramp margin 8 constraint
INERTIA	S_INERTIA_TOT	Inertia	System wide inertia constraint
SNSP	S_SNSP_TOT	SNSP	System wide SNSP (asynchronous generation limit) constraint
RoCoF	S_RoCoF	ROCOF	RoCoF constraint
FREQMGT	S_FREQ	FREQMGT	Footroom limits in jurisdiction for frequency management during I/C outage

Constraint Type	Constraint ID	Test Type	Notes
STL	S_STL_NI	STL	Limit on tie line flows to NI during single tie line outage
IARAMP	S_IARAMP	IARAMP	Inter-Area ramp constraints
NBMIN	S_NBMIN_TCGNAME	NB	All NB min constraints
NBMAX	S_NBMAX_TCGNAME	NB	All NB max constraints
MWMIN	S_MWMIN_TCGNAME	MW	All MW min constraints
MWMAX	S_MWMAX_TCGNAME	MW	All MW max constraints
MWR	S_MWR_TCGNAME	MWR	All MWR constraints

Table 95: Definition of ConstraintID Values Used in REPT_050

6.7.7.5 BALANCING AND IMBALANCE MARKET COST VIEW

This report contains the total Settlement Period Imbalance Volume (MWh) times the Imbalance Period Price. It is available for all the Participants and is run at half hourly intervals every day for the previous Imbalance Settlement Period.

I-SEM Report Reference:	*REPT_041*
Data Source	*Balancing Market Runs*
Periodicity:	*Daily*
Report Name:	PUB_30MinImbalCost
File Names:	PUB_30MinImbalCost_*YYYYMMDDHHMM*.xml
Report Title:	*Balancing and Imbalance Market Cost View Report*
Audience:	*Member Public and General Public*
Resolution:	Imbalance Settlement Period
Time Span:	*30 minutes*
Frequency:	*Half hourly intervals every day*
Report Format:	*XML*

Field Name	Format	Description
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End Time
IMBALANCE VOLUME	NUMBER(8,3)	Quantity of Net Imbalance volume (QNIV) for the Imbalance Settlement Period
IMBALANCE PRICE	NUMBER(8,2)	Calculated Average time weighted imbalance price (PIMB) for the Imbalance Settlement Period
IMBALANCE COST	NUMBER(8,2)	Imbalance Cost (Euro) = Settlement Period Imbalance Volume (MWhr) times the Imbalance Period Price (Euro/MWhr)

Table 96: Balance and Imbalance Market Cost View Report Field Description

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-24T05:00:28" DateType="TRADE" Date="2018-07-24" DatasetType="HALF_HOURLY"
DatasetName="PUB_30MinImbalCost" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_30MinImbalCost ImbalanceCost="-8.80088" ImbalancePrice="5.48" ImbalanceVolume="-1.606" EndTime="2018-07-
    24T04:30:00" StartTime="2018-07-24T04:00:00" ROW="1"/>
</OutboundData>
```

Figure 98: REPT_041: Balance and Imbalance Market Cost View Report Field Description - Sample

6.7.8 DAILY REPORTS – OTHER

6.7.8.1 DAILY TRANSMISSION OUTAGE SCHEDULE REPORT

This report contains transmission outage schedules for all Units, where applicable, for the next Trading Day.

I-SEM Report Reference:	*REPT_026*

Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_DailyTransOutageSchedule*
File Names:	*PUB_DailyTransOutageSchedule.xml*
Report Title:	*Daily Transmission Outage Schedule Report*
Audience:	*Member Public*
Resolution:	*Per outage durations*
Time Span:	*Next Trading Day*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
EQUIPMENT TYPE	VARCHAR2(6)	Equipment Type
EQUIPMENT ID	VARCHAR2(36)	Equipment identifier
EQUIPMENT NAME	VARCHAR2(32)	Equipment Name
OUTAGE REASON FLAG	CHAR(1)	Outage Reason Flag: P – Planned F- Forced C - Consequential
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Outage Start Date/Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Outage End Date/Time

Table 97: Daily Transmission Outage Schedule Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T09:05:02" DateType="TRADE" Date="2018-07-24" DatasetType="DAILY"
  DatasetName="PUB_DailyTransOutageSchedule" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyTransOutageSchedule EndTime="2018-07-27T16:00:00" StartTime="2018-07-16T08:00:00" DeliveryDate="2018-07-16"
      TradeDate="2018-07-16" OutageReasonFlag="P" EquipmentType="CB" EquipmentName="52V8" EquipmentID="74ef02a8-4771-
      4d12-9b37-33731a0f24c5" ROW="1"/>
    <PUB_DailyTransOutageSchedule EndTime="2018-07-27T16:00:00" StartTime="2018-07-16T08:00:00" DeliveryDate="2018-07-16"
      TradeDate="2018-07-16" OutageReasonFlag="P" EquipmentType="CB" EquipmentName="53V4" EquipmentID="703ce8db-121a-
      4849-bc7a-dea49fadee19" ROW="2"/>
    <PUB_DailyTransOutageSchedule EndTime="2033-12-31T23:59:00" StartTime="2018-07-13T03:01:00" DeliveryDate="2018-07-13"
      TradeDate="2018-07-13" OutageReasonFlag="P" EquipmentType="CB" EquipmentName="AD_2K1A_ISCN"
      EquipmentID="4b58b1d4-f311-476b-bb79-8e4990d8c8be" ROW="3"/>
```

Figure 99: REPT_026: Daily Transmission Outage Schedule Report - Sample

6.7.8.2 DAILY TRADING EXCHANGE RATE REPORT

This report contains the Daily Trading Exchange Rate, retrieved two days prior to the Trading Day.

I-SEM Report Reference:	*REPT_010*
Data Source	*Market Operator*
Periodicity:	*Daily*
Report Name:	*PUB_DailyExchangeRate*
File Names:	*PUB_DailyExchangeRate.xml*
Report Title:	*Daily Trading Exchange Rate Report*
Audience:	*Member Public*
Resolution:	*Trading Day*
Time Span:	*Trading Day + 2*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
FROM CURRENCY	CHAR(1)	From Currency - Euro (E) or Sterling Pound (P).

Field Name	Format	Description
TO CURRENCY	CHAR(1)	To Currency - Euro (E) or Sterling Pound (P).
EXCHANGE RATE	NUMBER(4,2)	Exchange Rate

Table 98: Daily Trading Day Exchange Rate Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-23T15:55:00" DateType="TRADE" Date="2018-07-23" DatasetType="DAILY"
DatasetName="PUB_DailyExchangeRate" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyExchangeRate ExchangeRate="0.8945" ToCurrency="P" FromCurrency="E" TradeDate="2018-07-23" ROW="1"/>
    <PUB_DailyExchangeRate ExchangeRate="1.1179" ToCurrency="E" FromCurrency="P" TradeDate="2018-07-23" ROW="2"/>
    <PUB_DailyExchangeRate ExchangeRate="0.8945" ToCurrency="P" FromCurrency="E" TradeDate="2018-07-24" ROW="3"/>
    <PUB_DailyExchangeRate ExchangeRate="1.1179" ToCurrency="E" FromCurrency="P" TradeDate="2018-07-24" ROW="4"/>
    <PUB_DailyExchangeRate ExchangeRate="1.1215" ToCurrency="E" FromCurrency="P" TradeDate="2018-07-25" ROW="5"/>
    <PUB_DailyExchangeRate ExchangeRate="0.8917" ToCurrency="P" FromCurrency="E" TradeDate="2018-07-25" ROW="6"/>
</OutboundData>
```

Figure 100: REPT_010: Daily Trading Day Exchange Rate Report - Sample

6.7.9   DAILY REPORTS – EX POST

6.7.9.1   DAILY DISPATCH INSTRUCTIONS (D+1) REPORT

This report contains the Dispatch Instructions for the previous Calendar Day, for all applicable Units.

I-SEM Report Reference:	*REPT_006*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_DailyDispatchInstrD1*
File Names:	*PUB_DailyDispatchInstrD1.xml*
Report Title:	*Daily Dispatch Instructions (D+1) Report*
Audience:	*Member Public*
Resolution:	*Per Dispatch Instruction*
Time Span:	*Calendar Day – 1*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
EFF TIME	TIME(YYYY-MM-DDTH24:MI)	Instruction Time Stamp
EFF UNTIL TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the instruction
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
DISPATCH INSTRUCTION MW	NUMBER(8,3)	Dispatch Instruction (MW)
INSTRUCTION CODE	VARCHAR2(4)	Instruction Code
INSTRUCTION COMBINATION CODE	VARCHAR2(4)	Instruction Combination Code
INSTR ISSUE TIME	TIME(YYYY-MM-DDTH24:MI)	Instruction Issue Time
RAMP UP RATE	NUMBER(8,3)	Ramp Up Rate
RAMP DOWN RATE	NUMBER(8,3)	Ramp Down Rate

Table 99: Daily Dispatch Instructions (D+1) Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T13:00:02" DateType="TRADE" Date="2018-07-23" DatasetType="DAILY"
  DatasetName="PUB_DailyDispatchInstrD1" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_DailyDispatchInstrD1 RampDownRate="0" RampUpRate="0" InstrIssueTime="2018-07-22T23:00:00" InstructionCode="MWOF"
        DispatchInstructionMW="321" ResourceName="GU_400930" ParticipantName="PT_400028" EffTime="2018-07-22T23:00:00"
        ROW="1"/>
      <PUB_DailyDispatchInstrD1 RampDownRate="0" RampUpRate="0" InstrIssueTime="2018-07-22T23:00:00" InstructionCode="MWOF"
        DispatchInstructionMW="276" ResourceName="GU_400271" ParticipantName="PT_400030" EffTime="2018-07-22T23:00:00"
        ROW="2"/>
      <PUB_DailyDispatchInstrD1 RampDownRate="0" RampUpRate="0" InstrIssueTime="2018-07-22T23:00:00" InstructionCode="MWOF"
        DispatchInstructionMW="415" ResourceName="GU_400850" ParticipantName="PT_400030" EffTime="2018-07-22T23:00:00"
        ROW="3"/>
```

Figure 101: REPT_006: Daily Dispatch Instructions (D+1) Report - Sample

6.7.9.2 DAILY DISPATCH INSTRUCTIONS (D+4) REPORT

This report contains Dispatch Instructions for all applicable Units for Calendar Day-4.

I-SEM Report Reference:	*REPT_007*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_DailyDispatchInstrD4*
File Names:	*PUB_DailyDispatchInstrD4.xml*
Report Title:	*Daily Dispatch Instructions (D+4) Report*
Audience:	*Member Public*
Resolution:	*Per Dispatch Instructions*
Time Span:	*Calendar Day - 4*
Frequency:	*Four days after Calendar Day*
Report Format:	*XML*

Field Name	Format	Description
EFF TIME	TIME(YYYY-MM-DDTH24:MI)	Instruction Time Stamp
EFF UNTIL TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the instruction
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
DISPATCH INSTRUCTION MW	NUMBER(8,3)	Dispatch Instruction (MW)
INSTRUCTION CODE	VARCHAR2(4)	Instruction Code
INSTRUCTION COMBINATION CODE	VARCHAR2(4)	Instruction Combination Code
INSTR ISSUE TIME	TIME(YYYY-MM-DDTH24:MI)	Instruction Issue Time
RAMP UP RATE	NUMBER(8,3)	Ramp Up Rate
RAMP DOWN RATE	NUMBER(8,3)	Ramp Down Rate

Table 100: Daily Dispatch Instructions (D+4) Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-22T13:00:10" DateType="TRADE" Date="2018-07-18" DatasetType="DAILY"
  DatasetName="PUB_DailyDispatchInstrD4" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_DailyDispatchInstrD4 RampDownRate="0" RampUpRate="0" InstrIssueTime="2018-07-17T23:00:00" InstructionCode="MWOF"
        DispatchInstructionMW="29" ResourceName="GU_500010" ParticipantName="PT_500021" EffTime="2018-07-17T23:00:00"
        ROW="1"/>
      <PUB_DailyDispatchInstrD4 RampDownRate="0" RampUpRate="0" InstrIssueTime="2018-07-17T23:00:00" InstructionCode="MWOF"
        DispatchInstructionMW="17" ResourceName="GU_500020" ParticipantName="PT_500021" EffTime="2018-07-17T23:00:00"
        ROW="2"/>
      <PUB_DailyDispatchInstrD4 RampDownRate="0" RampUpRate="0" InstrIssueTime="2018-07-17T23:00:00" InstructionCode="MWOF"
        DispatchInstructionMW="30" ResourceName="GU_500740" ParticipantName="PT_500021" EffTime="2018-07-17T23:00:00"
        ROW="3"/>
```

Figure 102: REPT_007: Daily Dispatch Instructions (D+4) Report - Sample

6.7.9.3 DAILY DEMAND CONTROL DATA TRANSACTION REPORT

This report contains Load Shedding (demand control) volume by Imbalance Settlement Period for the previous Trading Day.

I-SEM Report Reference:	*REPT_014*
Data Source	*Market Participant*
Periodicity:	*Daily*
Report Name:	*PUB_DailyDemandControlData*
File Names:	*PUB_DailyDemandControlData.xml*
Report Title:	*Daily Demand Control Data Transaction Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Previous Trading Day (TD-1)*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End time
ESTIMATE DEMAND REDUCTION MW	NUMBER(11,3)	Estimate of any reduction in demand as a consequence of Demand Control i.e. Load Shedding

Table 101: Daily Demand Control Data Transaction Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-21T09:20:25" DateType="TRADE" Date="2018-07-20" DatasetType="DAILY"
DatasetName="PUB_DailyDemandControlData" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <PUB_DailyDemandControlData ROW="1">
      <TradeDate>2018-07-20</TradeDate>
      <StartTime>2018-07-19T22:00:00</StartTime>
      <EndTime>2018-07-19T22:30:00</EndTime>
      <EstimateDemandReductionMW>-649.719</EstimateDemandReductionMW>
  </PUB_DailyDemandControlData>
  <PUB_DailyDemandControlData ROW="2">
      <TradeDate>2018-07-20</TradeDate>
      <StartTime>2018-07-19T22:30:00</StartTime>
      <EndTime>2018-07-19T23:00:00</EndTime>
      <EstimateDemandReductionMW>-855.286</EstimateDemandReductionMW>
  </PUB_DailyDemandControlData>
```

Figure 103: REPT_014: Daily Demand Control Data Transaction Report - Sample

6.7.9.4 DAILY GENERATOR UNIT TECHNICAL CHARACTERISTIC DATA TRANSACTION REPORT

This report contains Spot Daily Outturn Availability, Minimum Output and Minimum Stable Generation for Generator Units and Demand Side Units, for the previous Trading Day.

I-SEM Report Reference:	*REPT_015*
Data Source	*Participant*
Periodicity:	*Daily*
Report Name:	*PUB_DlyGenUnitTechCharDataTrans*
File Names:	*PUB_DlyGenUnitTechCharDataTrans.xml*
Report Title:	*Daily Generator Unit Technical Characteristic Data Transaction Report*
Audience:	*Member Public*
Resolution:	*Spot values per Generator Unit*
Time Span:	*Previous Trading Day (TD-1)*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day

Field Name	Format	Description
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(4)	Indicates the type of resource for which data is being submitted - permitted values include: GU, DSU, TU, AU, EU, SU, IU, IRCU, CAU, IEU.
EFFECTIVE TIME	TIME(YYYY-MM-DDTH24:MI)	Effective time stamp
ISSUE TIME	TIME(YYYY-MM-DDTH24:MI)	Issue time stamp
OUTTURN AVAILABILITY	NUMBER(8,3)	Outturn Availability, spot values, by Unit ID
OUTTURN MINIMUM STABLE GEN	NUMBER(8,3)	Outturn Minimum Stable Generation, spot values, by Unit ID
OUTTURN MINIMUM OUTPUT	NUMBER(8,3)	Outturn Minimum Output, spot values, by Unit Id
FUEL USE FLAG	VARCHAR2(1)	Indicates the fuel use type selected. The valid values are:P and S

Table 102: Daily Generator Unit Technical Characteristics Data Transaction Report

Figure 104: REPT_015: Daily Generator Unit Technical Characteristics Data Transaction Report - Sample

6.7.9.5 DAILY ENERGY LIMITED GENERATOR UNIT TECHNICAL CHARACTERISTIC DATA TRANSACTION REPORT

This report contains Re-declared Energy Limits for Energy Limited Generator Units for the previous Trading Day.

I-SEM Report Reference:	*REPT_016*
Data Source	*Market Participant*
Periodicity:	*Daily*
Report Name:	*PUB_DailyRedecs*
File Names:	*PUB_DailyRedecs.xml*
Report Title:	*Daily Energy Limited Generator Unit Technical Characteristic Data Transaction Report*
Audience:	*Member Public*
Resolution:	*Trading Period*
Time Span:	*Previous Trading Day (TD-1)*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(4)	Indicates the type of resource for which data is being submitted - permitted values include: GEN, DSU, TU, AU, EU, SU, IU, IRCU, CAU, IEU.

Field Name	Format	Description
REDECLARED ENERGY LIMIT	NUMBER(11,3)	Re-Declared Values of Energy Limit

Table 103: Daily Energy Limited Generator Unit Technical Characteristics Data Transaction Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T10:26:51" DateType="TRADE" Date="2018-07-23" DatasetType="DAILY"
    DatasetName="PUB_DailyRedecs" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <PUB_DailyRedecs RedeclaredEnergyLimit="0" ResourceType="GEN" ResourceName="GU_400200" ParticipantName="PT_400030"
            TradeDate="2018-07-23" ROW="1"/>
        <PUB_DailyRedecs RedeclaredEnergyLimit="0" ResourceType="GEN" ResourceName="GU_400201" ParticipantName="PT_400030"
            TradeDate="2018-07-23" ROW="2"/>
        <PUB_DailyRedecs RedeclaredEnergyLimit="0" ResourceType="GEN" ResourceName="GU_400202" ParticipantName="PT_400030"
            TradeDate="2018-07-23" ROW="3"/>
        <PUB_DailyRedecs RedeclaredEnergyLimit="0" ResourceType="GEN" ResourceName="GU_400203" ParticipantName="PT_400030"
            TradeDate="2018-07-23" ROW="4"/>
```

**Figure 105: REPT_016: Daily Energy Limited Generator Unit Technical Characteristics Data Transaction Report
- Sample**

6.7.9.6 DAILY METER DATA REPORT

This report contains metered generation (MWh) for each Generator Unit and Interconnectors per Imbalance Settlement Period, on a Settlement Day basis. This report is published D+1 and D+4, M+4, M+13 & Adhoc.

I-SEM Report Reference:	*REPT_017*
Data Source	*Meter Data Provider*
Periodicity:	*Daily*
Report Name:	*PUB_DailyMeterDataD1*
File Names:	*PUB_DailyMeterDataD1.xml*
Report Title:	*Daily Meter Data Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Calendar Day (TD-1WD) , (TD-5WD), (M+4 5WD), (M+13 5WD) and (Ad-hoc 5WD)*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day commences at 23:00hrs (GMT)
PARTICIPANT NAME	VARCHAR2(12)	The PT Identifier, which represents the name of Market Participant, as registered in the Balancing Market.
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(4)	Indicates the type of resource for which data is being submitted - permitted values include: GU, Interconnector.
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End Time
JURISDICTION	VARCHAR2(32)	ROI (Republic of Ireland) or NI (Northern Ireland)
METERED_MW	NUMBER(8,3)	Represents the total generation (MWh)

Table 104: Daily Meter Data Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T14:00:01" DateType="TRADE" Date="2018-07-23" DatasetType="DAILY"
    DatasetName="PUB_DailyMeterDataD1" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
        <PUB_DailyMeterDataD1 MeteredMW="-245.54" Jurisdiction="ROI" EndTime="2018-07-22T23:29:59" StartTime="2018-07-
            22T23:00:00" ResourceType="IU" ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" TradeDate="2018-07-23"
            ROW="1"/>
        <PUB_DailyMeterDataD1 MeteredMW="-229.84" Jurisdiction="ROI" EndTime="2018-07-22T23:59:59" StartTime="2018-07-
            22T23:30:00" ResourceType="IU" ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" TradeDate="2018-07-23"
            ROW="2"/>
        <PUB_DailyMeterDataD1 MeteredMW="-249.94" Jurisdiction="ROI" EndTime="2018-07-23T00:29:59" StartTime="2018-07-
            23T00:00:00" ResourceType="IU" ResourceName="I_ROIEWIC" ParticipantName="IO_EIDAC" TradeDate="2018-07-23"
            ROW="3"/>
```

Figure 106: REPT_017 Daily Meter Data Report - Sample

6.7.9.7 AVERAGE SYSTEM FREQUENCY REPORT

This report contains the nominal and calculated average System Frequency by Imbalance Settlement Period for the relevant Trading Day.

I-SEM Report Reference:	*REPT_029*
Periodicity:	*Daily*
Report Name:	*PUB_AvgSystemFrequency*
File Names:	*PUB_AvgSystemFrequency.xml*
Report Title:	*Average System Frequency Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Trading Day - 1*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Date
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start time
END TIME	TIME(YYYY-MM-DDTH24:MI)	End time
NOMINAL FREQUENCY	NUMBER(6,3)	Nominal Frequency
AVERAGE FREQUENCY	NUMBER(6,3)	Average Frequency

Table 105: Average System Frequency Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-24T10:25:36" DateType="TRADE" Date="2018-07-23" DatasetType="DAILY"
DatasetName="PUB_AvgSystemFrequency" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_AvgSystemFrequency ROW="1">
        <DeliveryDate>2018-07-23</DeliveryDate>
        <TradeDate>2018-07-23</TradeDate>
        <StartTime>2018-07-22T23:00:00</StartTime>
        <EndTime>2018-07-22T23:30:00</EndTime>
        <NominalFrequency>50</NominalFrequency>
        <AverageFrequency>49.999</AverageFrequency>
    </PUB_AvgSystemFrequency>
```

Figure 107: REPT_029: Average System Frequency Report - Sample

6.7.9.8 SO INTERCONNECTOR TRADES REPORT

This report is produced daily and published all interconnector trades for the previous calendar day. The report contains interconnector import/export prices and their associated MW quantites for each imabalance settlement period. The report is only produced if there has been SO trades on that day.

I-SEM Report Reference:	*REPT_030*
Periodicity:	*Daily*
Report Name:	*PUB_DailyIntconTrades*
File Names:	*PUB_DailyIntconTrades.xml*
Report Title:	*SO Interconnector Trades Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Settlement Day – 1*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
SETTLEMENT DATE	DATE (YYYY-MM-DD)	Settlement Date
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End time
SO INTERCON IMP PRICE	NUMBER(8,2)	Import Price for SO Trades
SO INTERCON IMP QUANTITY	NUMBER(8,3)	Import Quantity for SO Trades
SO INTERCON EXP PRICE	NUMBER(8,2)	Export Price for SO Trades
SO INTERCON EXP QUANTITY	NUMBER(8,3)	Export Quantity for SO Trades

Table 106: SO Interconnector Trades Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-07T10:10:01" DateType="TRADE" Date="2018-07-06" DatasetType="DAILY"
DatasetName="PUB_DailyIntconTrades" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyIntconTrades SoInterconImpPrice="118.75" SoInterconImpQuantity="0.008" EndTime="2018-07-06T13:00:00"
        StartTime="2018-07-06T12:30:00" DeliveryDate="2018-07-06" ResourceName="I_ROIEWIC" SettlementDate="2018-07-06"
        ROW="1"/>
    <PUB_DailyIntconTrades SoInterconImpPrice="118.75" SoInterconImpQuantity="0.008" EndTime="2018-07-06T13:00:00"
        StartTime="2018-07-06T12:30:00" DeliveryDate="2018-07-06" ResourceName="I_ROIEWIC" SettlementDate="2018-07-06"
        ROW="2"/>
</OutboundData>
```

Figure 108: REPT_030: SO Interconnector Trades Report – Sample

6.7.9.9 UNIT DATA REPORT

This report contains Generator Unit and Demand Side Unit Fuel Type for the previous Trading Day.

I-SEM Report Reference:	*REPT_031*
Periodicity:	*Daily*
Report Name:	*PUB_DailyUnitData*
File Names:	*PUB_DailyUnitData.xml*
Report Title:	*Unit Data Report*
Audience:	*Member Public*
Resolution:	*Trading Day*
Time Span:	*Trading Day – 1*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
JURISDICTION	VARCHAR2(32)	ROI (Republic of Ireland) or NI (Northern Ireland)
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
PARTICIPANT FULLNAME	VARCHAR2(60)	Full Name of the Participant
PARTICIPANT NAME	VARCHAR2(12)	Participant name
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
RESOURCE TYPE	VARCHAR2(4)	Type of resource

Field Name	Format	Description
FUEL TYPE	VARCHAR2(22)	Fuel type. Possible values are: Oil Gas Peat Wind Biomass CHP Hydro Coal Distillate Nuclear Battery Storage Multi Fuel Pump Storage Fly Wheel Solar Compressed Air Storage Other

Table 107: Unit Data Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-23T10:01:01" DateType="TRADE" Date="2018-07-22" DatasetType="DAILY"
    DatasetName="PUB_DailyUnitData" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyUnitData Jurisdiction="ROI" ResourceType="IEU" ResourceName="IEU_ROIEWIC" ParticipantFullName="EirGrid (acting as
        Interconnector Administrator)" ParticipantName="IA_EIRGRID" TradeDate="2018-07-22" ROW="1"/>
    <PUB_DailyUnitData Jurisdiction="NI" ResourceType="IEU" ResourceName="IEU_NIMOYLE" ParticipantFullName="SONI (acting as
        Interconnector Administrator)" ParticipantName="IA_SONI" TradeDate="2018-07-22" ROW="2"/>
    <PUB_DailyUnitData Jurisdiction="ROI" ResourceType="IU" ResourceName="I_ROIEWIC" ParticipantFullName="EirGrid Interconnector
        Designated Activity Company" ParticipantName="IO_EIDAC" TradeDate="2018-07-22" ROW="3"/>
    <PUB_DailyUnitData Jurisdiction="ROI" ResourceType="IU" ResourceName="I_ROIEWIC" ParticipantFullName="EirGrid Interconnector
        Designated Activity Company" ParticipantName="IO_EIDAC" TradeDate="2018-07-22" ROW="4"/>
    <PUB_DailyUnitData Jurisdiction="NI" ResourceType="IU" ResourceName="I_NIMOYLE" ParticipantFullName="Moyle Interconnector
        Limited" ParticipantName="IO_MOYLE" TradeDate="2018-07-22" ROW="5"/>
    <PUB_DailyUnitData Jurisdiction="ROI" ResourceType="GEN" ResourceName="GU_400020" ParticipantFullName="SSE Airtricity Limited"
        ParticipantName="PT_400021" TradeDate="2018-07-22" ROW="6" FuelType="WIND"/>
    <PUB_DailyUnitData Jurisdiction="ROI" ResourceType="GEN" ResourceName="GU_400020" ParticipantFullName="SSE Airtricity Limited"
        ParticipantName="PT_400021" TradeDate="2018-07-22" ROW="7" FuelType="WIND"/>
    <PUB_DailyUnitData Jurisdiction="ROI" ResourceType="GEN" ResourceName="GU_400020" ParticipantFullName="SSE Airtricity Limited"
        ParticipantName="PT_400021" TradeDate="2018-07-22" ROW="8" FuelType="WIND"/>
```

Figure 109: REPT_031: SO Interconnector Trades Report - Sample

6.7.9.10 INITIAL INTERCONNECTOR FLOWS AND RESIDUAL CAPACITY REPORT

This report contains the initial metered Interconnector flow and the difference between metered and scheduled interconnector flow per Imbalance Settlement Period for the settlement day.

I-SEM Report Reference:	*REPT_022*
Data Source	*Settlement*
Periodicity:	*Daily*
Report Name:	*PUB_DailyIntconFlowAndResCap*
File Names:	*PUB_DailyIntconFlowAndResCap.xml*
Report Title:	*Initial Interconnector Flows and Residual Capacity Report*
Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Settlement Day-4*
Frequency:	*Daily (every Working Day as Meter Data is received per Working Day)*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (/YYYY-MM-DD)	Trading Day
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Interconnector for which data is being reported).
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End Time
METERED FLOW	NUMBER(8,3)	Initial Flow MW

Field Name	Format	Description
FLOW VARIANCE	NUMBER(8,3)	Difference between Indicative and Initial or scheduled flow
RESIDUAL CAPACITY	NUMBER(8,3)	Residual Capacity (MW)

Table 108: Initial Interconnector Flows and Residual Capacity Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T10:10:31" DateType="TRADE" Date="2018-07-18" DatasetType="DAILY"
  DatasetName="PUB_DailyIntconFlowAndResCap" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyIntconFlowAndResCap ResidualCapacity="197" FlowVariance="-48.342" MeteredFlow="160.2" EndTime="2018-07-18T12:30:00"
      StartTime="2018-07-18T12:00:00" ResourceName="I_NIMOYLE" TradeDate="2018-07-18" ROW="1"/>
    <PUB_DailyIntconFlowAndResCap ResidualCapacity="370.833" FlowVariance="9.438" MeteredFlow="66.87" EndTime="2018-07-
      18T11:30:00" StartTime="2018-07-18T11:00:00" ResourceName="I_ROIEWIC" TradeDate="2018-07-18" ROW="2"/>
    <PUB_DailyIntconFlowAndResCap ResidualCapacity="334.3" FlowVariance="17.098" MeteredFlow="80.26" EndTime="2018-07-
      18T12:30:00" StartTime="2018-07-18T12:00:00" ResourceName="I_ROIEWIC" TradeDate="2018-07-18" ROW="3"/>
    <PUB_DailyIntconFlowAndResCap ResidualCapacity="234" FlowVariance="-3.495" MeteredFlow="133.22" EndTime="2018-07-18T13:30:00"
      StartTime="2018-07-18T13:00:00" ResourceName="I_ROIEWIC" TradeDate="2018-07-18" ROW="4"/>
```

Figure 110: REPT_022: : Initial Interconnector Flows and Residual Capacity Report - Sample

6.7.9.11 DISPATCH QUANTITY

I-SEM Report Reference:	*REPT_068*
Data Source	*TSO*
Periodicity	*Daily*
Report Name:	*PUB_DlyDispatchQuantity*
File Names:	*PUB_DlyDispatchQuantity.xml*
Report Title:	*Dispatch Quantity*
Audience:	*General Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Previous Settlement Day*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Date
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code). (YYYY-MM-DD)
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time of Imbalance Settlement Period
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time of Imbalance Settlement Period
RESOURCE NAME	VARCHAR2(32)	Resource Name
DISPATCH QUANTITY	NUMBER(8,3)	Dispatch Quantity (MW)

Table 109: Dispatch Quantity

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T15:00:01" DateType="TRADE" Date="2018-07-23" DatasetType="DAILY"
  DatasetName="PUB_DlyDispatchQuantity" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DlyDispatchQuantity DispatchQuantity="0" ResourceName="DSU_401270" EndTime="2018-07-22T23:30:00" StartTime="2018-
      07-22T23:00:00" DeliveryDate="2018-07-22" TradeDate="2018-07-23" ROW="1"/>
    <PUB_DlyDispatchQuantity DispatchQuantity="0" ResourceName="DSU_401270" EndTime="2018-07-23T00:00:00" StartTime="2018-
      07-22T23:30:00" DeliveryDate="2018-07-22" TradeDate="2018-07-23" ROW="2"/>
    <PUB_DlyDispatchQuantity DispatchQuantity="0" ResourceName="DSU_401270" EndTime="2018-07-23T00:30:00" StartTime="2018-
      07-23T00:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-23" ROW="3"/>
    <PUB_DlyDispatchQuantity DispatchQuantity="0" ResourceName="DSU_401270" EndTime="2018-07-23T01:00:00" StartTime="2018-
      07-23T00:30:00" DeliveryDate="2018-07-23" TradeDate="2018-07-23" ROW="4"/>
```

Figure 111: REPT_068: Dispatch Quantity - Sample

6.7.9.12 AVERAGE OUTTURN AVAILABILITY

I-SEM Report Reference:	*REPT_082*
Data Source	*TSO*
Periodicity	*Daily*
Report Name:	*PUB_AvgOutturnAvail*
File Names:	*PUB_AvgOutturnAvail.xml*
Report Title:	*Average Outturn Availability*

Audience:	*Member Public*
Resolution:	*Imbalance Settlement Period*
Time Span:	*Calendar Day – 1*
Frequency:	*Daily*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
DELIVERY DATE	DATE (YYYY-MM-DD)	Calendar Day (referred to as "Day" in the Code). (YYYY-MM-DD)
START TIME	TIME(YYYY-MM-DDTH24:MI)	Start Time of Imbalance Settlement Period
END TIME	TIME(YYYY-MM-DDTH24:MI)	End Time of Imbalance Settlement Period
PARTICIPANT NAME	VARCHAR2(12)	Participant name
RESOURCE NAME	VARCHAR2(32)	The name of the resource (e.g. the name of the Generating Unit, Supplier Unit, Demand Side Unit, Interconnector for which data is being reported).
AVG OUTTURN AVAIL	NUMBER(8,3)	Outturn Availability

Table 110: Average Outturn Availability Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T15:00:48" DateType="TRADE" Date="2018-07-23" DatasetType="DAILY"
  DatasetName="PUB_AvgOutturnAvail" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_AvgOutturnAvail AvgOutturnAvail="11" ResourceName="DSU_402040" ParticipantName="PT_400043" EndTime="2018-07-
    22T23:30:00" StartTime="2018-07-22T23:00:00" DeliveryDate="2018-07-22" TradeDate="2018-07-23" ROW="1"/>
    <PUB_AvgOutturnAvail AvgOutturnAvail="11" ResourceName="DSU_402040" ParticipantName="PT_400043" EndTime="2018-07-
    23T00:00:00" StartTime="2018-07-22T23:30:00" DeliveryDate="2018-07-22" TradeDate="2018-07-23" ROW="2"/>
    <PUB_AvgOutturnAvail AvgOutturnAvail="11" ResourceName="DSU_402040" ParticipantName="PT_400043" EndTime="2018-07-
    23T00:30:00" StartTime="2018-07-23T00:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-23" ROW="3"/>
    <PUB_AvgOutturnAvail AvgOutturnAvail="11" ResourceName="DSU_402040" ParticipantName="PT_400043" EndTime="2018-07-
    23T01:00:00" StartTime="2018-07-23T00:30:00" DeliveryDate="2018-07-23" TradeDate="2018-07-23" ROW="4"/>
    <PUB_AvgOutturnAvail AvgOutturnAvail="11" ResourceName="DSU_402040" ParticipantName="PT_400043" EndTime="2018-07-
    23T01:30:00" StartTime="2018-07-23T01:00:00" DeliveryDate="2018-07-23" TradeDate="2018-07-23" ROW="5"/>
```

Figure 112: REPT_082: Average Outturn Availability Report - Sample

6.7.9.13 OUTTURN AVAILABILITY

I-SEM Report Reference:	*REPT_101*
Data Source	*TSO*
Periodicity	*Hourly*
Report Name:	*PUB_HrlyOutturnAvailability*
File Names:	*PUB_HrlyOutturnAvailability _YYYYMMDDHHMM.xml*
Report Title:	*Outturn Availability*
Audience:	*Member Public*
Resolution:	*Point in time*
Time Span:	*Whole hour preceding the time at which the report is produced*
Frequency:	*Hourly*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trade Date
DELIVERY DATE	DATE (YYYY-MM-DD)	Delivery Date
ISSUE TIME	TIME(YYYY-MM-DDTH24:MI)	Issue time for the availability declaration
PARTICIPANT NAME	VARCHAR2(12)	Participant Name
RESOURCE NAME	VARCHAR2(32)	Resource Name
OUTTURN AVAILABILITY	NUMBER(8,3)	Maximum Availability (MW)
OUTTURN MINIMUM STABLE GEN	NUMBER(8,3)	Minimum Stable Generation (MW)
OUTTURN MINIMUM OUTPUT	NUMBER(8,3)	Minimum Output (MW)

Table 111: Outturn Availability Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T20:15:01" DateType="TRADE" Date="2018-07-24" DatasetType="HOURLY"
    DatasetName="PUB_HrlyOutturnAvailability" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_HrlyOutturnAvailability OutturnMinimumOutput="0" OutturnAvailability="404" ResourceName="GU_400500"
        ParticipantName="PT_400037" IssueTime="2018-07-24T19:56:07" DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="1"/>
      <PUB_HrlyOutturnAvailability OutturnMinimumOutput="0" OutturnAvailability="410" ResourceName="GU_400930"
        ParticipantName="PT_400028" IssueTime="2018-07-24T19:52:54" DeliveryDate="2018-07-24" TradeDate="2018-07-24" ROW="2"/>
</OutboundData>
```

Figure 113: **REPT_101: Outturn Availability Report – Sample**

6.7.9.14 HOURLY DISPATCH INSTRUCTIONS REPORT

This report is published on an hourly basis, containing all Accepted Dispatch Instructions (including Wind Units) where the Issue Time is in the previous hour.

I-SEM Report Reference:	*REPT_102*
Data Source	*TSO*
Periodicity:	*Hourly*
Report Name:	*PUB_HrlyDispatchInstr*
File Names:	*PUB_HrlyDispatchInst _YYYYMMDDHHMM.xml*
Report Title:	*Hourly Dispatch Instructions Report*
Audience:	*Member Public*
Resolution:	*Point in time*
Time Span:	*Whole hour preceding the time at which the report is produced*
Frequency:	*Hourly*
Report Format:	*XML*

Field Name	Format	Description
INSTRUCTION TIME STAMP	TIME(YYYY-MM-DDTH24:MI)	Instruction Time Stamp
INSTRUCTION END TIME	TIME(YYYY-MM-DDTH24:MI)	End time of the instruction
PARTICIPANT NAME	VARCHAR2(12)	Participant Name
RESOURCE NAME	VARCHAR2(32)	Resource Name
DISPATCH INSTRUCTION	NUMBER(8,3)	Dispatch Instruction
INSTRUCTION CODE	VARCHAR2(4)	Instruction Code
INSTRUCTION COMBINATION CODE	VARCHAR2(4)	Instruction Combination Code
INSTRUCTION ISSUE TIME	TIME(YYYY-MM-DDTH24:MI)	Instruction Issue Time

Table 112: Hourly Dispatch Instructions Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-21T23:15:01" DateType="TRADE" Date="2018-07-22" DatasetType="HOURLY"
    DatasetName="PUB_HrlyDispatchInstr" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_HrlyDispatchInstr InstructionIssueTime="2018-07-21T22:00:00" InstructionCode="MWOF" DispatchInstruction="273"
        ResourceName="GU_400271" ParticipantName="PT_400030" InstructionTimeStamp="2018-07-21T22:00:00" ROW="1"/>
      <PUB_HrlyDispatchInstr InstructionIssueTime="2018-07-21T22:00:00" InstructionCode="MWOF" DispatchInstruction="334"
        ResourceName="GU_400540" ParticipantName="PT_400044" InstructionTimeStamp="2018-07-21T22:00:00" ROW="2"/>
      <PUB_HrlyDispatchInstr InstructionIssueTime="2018-07-21T22:00:00" InstructionCode="MWOF" DispatchInstruction="291"
        ResourceName="GU_500040" ParticipantName="PT_500024" InstructionTimeStamp="2018-07-21T22:00:00" ROW="3"/>
      <PUB_HrlyDispatchInstr InstructionIssueTime="2018-07-21T22:05:01" InstructionCode="MWOF" DispatchInstruction="269"
        ResourceName="GU_400271" ParticipantName="PT_400030" InstructionTimeStamp="2018-07-21T22:05:00" ROW="4"/>
      <PUB_HrlyDispatchInstr InstructionIssueTime="2018-07-21T22:05:01" InstructionCode="MWOF" DispatchInstruction="352"
        ResourceName="GU_400540" ParticipantName="PT_400044" InstructionTimeStamp="2018-07-21T22:05:00" ROW="5"/>
```
Figure 114: **REPT_102: Hourly Dispatch Instructions Report – Sample**

6.7.9.15 HOURLY SO INTERCONNECTOR TRADES REPORT

This report is available to all the Market Participants and general public. It is produced each hour for the previous hour, containing all SO Interconnector Trades for which the start time is less than or equal to the end of the hour for which the report is being published, or where the end time is greater than or equal to the start of the hour for which the report is being produced. The report includes interconnector import/export prices and trade MW quantities. The report will not published where there are no applicable SO Interconnector Trades applicable for the relevant hour.

I-SEM Report Reference:	*REPT_103*
Data Source	*TSO*
Periodicity:	*Hourly*
Report Name:	*PUB_HrlyIntconTrades*
File Names:	*PUB_HrlyIntconTrades_YYYYMMDDHHMM.xml*
Report Title:	*Hourly SO Interconnector Trades Report*
Audience:	*Member Public*
Resolution:	*Individual SO Interconnector Trades*
Time Span:	*Whole hour preceding the time at which the report is produced*
Frequency:	*Hourly*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE(YYYY-MM-DD)	Trading Date
RESOURCE NAME	VARCHAR2(32)	Resource Name
DELIVERY DATE	DATE(YYYY-MM-DD)	Delivery Date
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End time
SO INTERCON IMP PRICE	NUMBER(8,2)	Import Price for SO Trades
SO INTERCON IMP QUANTITY	NUMBER(8,3)	Import Quantity for SO Trades
SO INTERCON EXP PRICE	NUMBER(8,2)	Export Price for SO Trades
SO INTERCON EXP QUANTITY	NUMBER(8,3)	Export Quantity for SO Trades

Table 113: Hourly SO Interconnector Trades Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-06-21T15:15:01" DateType="TRADE" Date="2018-06-21" DatasetType="HOURLY"
  DatasetName="PUB_HrlyIntconTrades" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_HrlyIntconTrades SoInterconExpQuantity="-2.042" SoInterconExpPrice="-68.96" EndTime="2018-06-21T15:00:00"
      StartTime="2018-06-21T14:55:00" DeliveryDate="2018-06-21" ResourceName="I_ROIEWIC" TradeDate="2018-06-21"/>
    <PUB_HrlyIntconTrades SoInterconExpQuantity="-2.042" SoInterconExpPrice="-68.96" EndTime="2018-06-21T15:00:00"
      StartTime="2018-06-21T14:55:00" DeliveryDate="2018-06-21" ResourceName="I_ROIEWIC" TradeDate="2018-06-21"/>
</OutboundData>
```

Figure 115: **REPT_103: Hourly SO Interconnector Trades Report – Sample**

6.7.9.16 ANONYMISED INC / DEC CURVES REPORT

This report contains the anonymised composite valid submitted Inc/Dec values for the relevant Imbalance Settlement Period. The data describes a curve which comprises of Incs and Decs for all Participants, sorted by price in ascending order for each aggregate associated quantity.

I-SEM Report Reference:	*REPT_081*
Data Source	*TSO*
Periodicity:	*Daily*
Report Name:	*PUB_HrlyAnonymisedIncDecCurves*
File Names:	*PUB_HrlyAnonymisedIncDecCurves_YYYYMMDDHHMM.xml*
Report Title:	*Anonymised Inc / Dec Curves Report*
Audience:	*Member Public*
Resolution:	*Trading Period*
Time Span:	*Imbalance Settlement Period*
Frequency:	*Hourly*
Report Format:	*XML*

Field Name	Format	Description
TRADE DATE	DATE (YYYY-MM-DD)	Trading Day
START TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period Start Time
END TIME	TIME(YYYY-MM-DDTH24:MI)	Imbalance Settlement Period End time
INC QUANTITY	NUMBER(8,3)	Aggregate inc quantity for a given price.
INC PRICE	NUMBER(8,2)	Submitted inc price
DEC QUANTITY	NUMBER(8,3)	Aggregate dec quantity for a given price.
DEC PRICE	NUMBER(8,2)	Submitted dec price

Table 114: Anonymised Inc/Dec Curves Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-03T21:45:00" DateType="TRADE" Date="2018-07-04" DatasetType="HOURLY"
    DatasetName="PUB_HrlyAnonymisedIncDecCurves" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_HrlyAnonymisedIncDecCurves DecQuantity="40" DecPrice="-1000" EndTime="2018-07-03T22:30:00" StartTime="2018-07-03T22:00:00"
        TradeDate="2018-07-04" ROW="1"/>
      <PUB_HrlyAnonymisedIncDecCurves DecQuantity="72.43" DecPrice="-100" EndTime="2018-07-03T22:30:00" StartTime="2018-07-03T22:00:00"
        TradeDate="2018-07-04" ROW="2" IncQuantity="32.43" IncPrice="-100"/>
      <PUB_HrlyAnonymisedIncDecCurves DecQuantity="78.864" DecPrice="-85.36" EndTime="2018-07-03T22:30:00" StartTime="2018-07-03T22:00:00"
        TradeDate="2018-07-04" ROW="3"/>
      <PUB_HrlyAnonymisedIncDecCurves EndTime="2018-07-03T22:30:00" StartTime="2018-07-03T22:00:00" TradeDate="2018-07-04" ROW="4"
        IncQuantity="38.864" IncPrice="-84.86"/>
      <PUB_HrlyAnonymisedIncDecCurves DecQuantity="89.864" DecPrice="-79.51" EndTime="2018-07-03T22:30:00" StartTime="2018-07-03T22:00:00"
        TradeDate="2018-07-04" ROW="5"/>
```

Figure 116: REPT_081: Anonymised Inc/Dec Curves Report - Sample

6.7.10 REPORTS - EVENT DRIVEN

6.7.10.1 LIST OF REGISTERED UNITS REPORT

This report contains all Units registered to participate in the I-SEM. Note: where there is an approved change to the registration data for any Unit, then the report will contain two records for the Unit – one with a deregistration date of the end date of the superceded record and a second record with a registration date equal to the effective date of the new registration data.

I-SEM Report Reference:	REPT_035
Data Source	Registration
Periodicity:	Daily
Report Name:	PUB_DailyRegisteredUnits
File Names:	PUB_DailyRegisteredUnits.xml
Report Title:	List of Registered Units Report
Audience:	Member Public
Resolution:	n/a
Time Span:	Currently Active/Approved Units, as registered at the time of publication
Frequency:	Daily, only when a new Unit Registration is approved.
Report Format:	XML

Field Name	Format	Description
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Publish Date/time
PARTY ID	VARCHAR2(12)	Party ID (PY_xxxxxx)
PARTY NAME	VARCHAR2(60)	Company name
ASSOCIATED PARTICIPANT ID	VARCHAR2(12)	Participant ID (PT_xxxxxx)
ASSOCIATED PARTICIPANT NAME	VARCHAR2(60)	Participant name
TRADING SITE ID	VARCHAR2(12)	TS_xxxxxx
UNIT ID	VARCHAR2(32)	e.g. GU_xxxxxx
UNIT NAME	VARCHAR2(32)	Unit name
UNIT TYPE	VARCHAR2(4)	Unit Type as per Registration (e.g. GU, SU, TU, etc.)
INTERMEDIARY	CHAR(1)	Y/N flag
AOLR REGISTERED	CHAR(1)	Y/N flag
STATUS	VARCHAR2(16)	Registered (does not have de-registration date) De-Registered (has de-registration date)
REGISTRATION DATE	YYYY-MM-DD	Trading Day when registered
DEREGISTRATION DATE	YYYY-MM-DD	Trading Day when deregistered

Table 115: List of Registered Units Report

```xml
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-22T10:00:51" DateType="TRADE" Date="2018-07-22" DatasetType="DAILY"
    DatasetName="PUB_DailyRegisteredUnits" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <PUB_DailyRegisteredUnits PublishTime="2018-07-22T10:00:51" RegistrationDate="2017-11-23T00:00:00" Status="Registered"
        AOLRRegistered="N" UnitType="IEU" UnitID="IEU_ROIEWIC" TradingSiteID="NA" AssociatedParticipantName="EirGrid (acting as Interconnector
        Administrator)" AssociatedParticipantID="IA_EIRGRID" PartyName="EirGrid (acting as Interconnector Administrator)"
        PartyID="IA_EIRGRID" ROW="1"/>
      <PUB_DailyRegisteredUnits PublishTime="2018-07-22T10:00:51" RegistrationDate="2017-11-23T00:00:00" Status="Registered"
        AOLRRegistered="N" UnitType="IEU" UnitID="IEU_NIMOYLE" TradingSiteID="NA" AssociatedParticipantName="SONI (acting as Interconnector
        Administrator)" AssociatedParticipantID="IA_SONI" PartyName="SONI (acting as Interconnector Administrator)" PartyID="IA_SONI"
        ROW="2"/>
```

Figure 117: REPT_035: List of Registered Units Report - Sample

6.7.10.2 LIST OF REGISTERED PARTIES REPORT

This report contains details of all Parties that are registered in the I-SEM.

I-SEM Report Reference:	*REPT_036*
Data Source	*Registration*
Periodicity:	*Daily*
Report Name:	*PUB_DailyRegisteredParties*
File Names:	*PUB_DailyRegisteredParties.xml*
Report Title:	*List of Registered Parties Report*
Audience:	*Member Public*
Resolution:	*n/a*
Time Span:	*Currently Active/Approved Parties, as registered at the time of publication*
Frequency:	*Daily, only when a new Party Registration is approved.*
Report Format:	*XML*

Field Name	Format	Description
PUBLISH TIME	TIME(YYYY-MM-DDTH24:MI)	Publish Date/time
SHORT NAME	VARCHAR2(12)	PY_xxxxxx
COMPANY NAME	VARCHAR2(60)	Company Name
STATUS	VARCHAR2(24)	Registered Party Terminated (Voluntarily) Terminated
REGISTRATION DATE	YYYY-MM-DD	Trading Day when registered
TERMINATION DATE	YYYY-MM-DD	Trading Day when deregistered

Table 116: List of Registered Parties Report

```xml
<?xml version="1.0"?>
<OutboundData PublishTime="2018-07-22T10:00:45" DateType="TRADE" Date="2018-07-22" DatasetType="DAILY"
DatasetName="PUB_DailyRegisteredParties" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <PUB_DailyRegisteredParties PublishTime="2018-07-22T10:00:45" RegistrationDate="2017-11-23T00:00:00" Status="Registered"
        CompanyName="EirGrid (acting as Interconnector Administrator)" ShortName="IA_EIRGRID" ROW="1"/>
    <PUB_DailyRegisteredParties PublishTime="2018-07-22T10:00:45" RegistrationDate="2017-11-23T00:00:00" Status="Registered"
        CompanyName="SONI (acting as Interconnector Administrator)" ShortName="IA_SONI" ROW="2"/>
    <PUB_DailyRegisteredParties PublishTime="2018-07-22T10:00:45" RegistrationDate="2018-06-13T00:00:00" Status="Registered"
        CompanyName="EirGrid Interconnector Designated Activity Company" ShortName="IO_EIDAC" ROW="3"/>
    <PUB_DailyRegisteredParties PublishTime="2018-07-22T10:00:45" RegistrationDate="2017-11-23T00:00:00" Status="Registered"
        CompanyName="Moyle Interconnector Limited" ShortName="IO_MOYLE" ROW="4"/>
```

Figure 118: REPT_036: List of Registered Parties Report - Sample

6.7.11 SETTLEMENT REPORTS

Note: within settlement reports, the end time is used to identify the end of the relevant Imbalance Settlement Period.

This section describes all reports which are produced by the Settlement & Invoicing system.

REPORT ID	REPORT NAME	REPORT CODE	SCHEMA
043	SETTLEMENT STATEMENT	SS	XSD_REPT_043
044	SETTLEMENT REPORT (PARTICIPANT INFORMATION REPORT)	SR	XSD_REPT_044
045	SETTLEMENT DOCUMENT	SD	XSD_REPT_045
046	REALLOCATION REQUESTS	SA	XSD_REPT_046

REPORT ID	REPORT NAME	REPORT CODE	SCHEMA
048	COLLATERAL REPORT (INC. COLLATERAL REFUND NOTICE)	CR	XSD_REPT_048
055, 056, 104, 105, 106	ENERGY MARKET FINANCIAL PUBLICATION	EF	XSD_REPT_055_REPT_056_REPT_104_REPT_105_REPT_106
057, 058,107,108,109	ENERGY MARKET INFORMATION PUBLICATION	EI	XSD_REPT_057_REPT_058_REPT_107_REPT_108_REPT_109
059, 060, 110, 111, 112	CAPACITY MARKET FINANCIAL PUBLICATION	CF	XSD_REPT_059_REPT_060_REPT_110_REPT_111_REPT_112
061, 062, 113, 114, 115	CAPACITY MARKET INFORMATION PUBLICATION	CI	XSD_REPT_061_REPT_062_REPT_113_REPT_114_REPT_115
063, 064, 116, 117, 118	METERED GENERATION INFORMATION PUBLICATION	MI	XSD_REPT_063_REPT_064_REPT_116_REPT_117_REPT_118
065	OVER/UNDER GENERATION	GP	XSD_REPT_065
067	SETTLEMENT CALENDAR	N/A	XSD_REPT_067
069	CAPACITY PAYMENTS BY MARKET	CJ	XSD_REPT_069
070	CAPACITY PAYMENTS BY UNIT	CU	XSD_REPT_070
071	CROSS BORDER MONTHLY CAPACITY DATA	XM	XSD_REPT_071
072	CROSS BORDER WEEKLY ENERGY DATA	XW	XSD_REPT_072
074	MAKE WHOLE PAYMENTS	MW	XSD_REPT_074
066	METERED VOLUMES BY JURISDICTION	MJ	XSD_REPT_066

Table 117: Applicable Schema for Settlement Reports

6.7.11.1 SETTLEMENT STATEMENT

The Settlement Statement is a report on the individual settlement charges and payments for each of a participant's units at the imbalance settlement period level, as well as the totals for each Settlement Charge Type summed over all its units for the calendar day. Statements are issued to Participants for all markets and run types on a schedule defined by the settlement calendar.

I-SEM Report Reference:	REPT_043
Data Source	CSB Settlement System
Periodicity:	Defined Schedule by the Settlement Calendar (Daily by Business Day)
File Names:	*SS_<PT_NNN>_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Settlement Statement
Audience:	Member Private
Resolution:	Charge Code by Unit by Imbalance Settlement Period
Time Span:	Daily Charges and Credits
Frequency:	Defined Schedule by the Settlement Calendar (Daily by Business Day)
Report Format:	XML

Field Name	Format	Description

REPORT_TYPE	VARCHAR(2)	Identifier for report (SS)
PARTICIPANT_NAME	VARCHAR2(12)	Participant name
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB, CRM, MO, FMOC)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)
REGISTERED_CURRENCY	VARCHAR(3)	Currency of the statement amounts (EUR or GBP)
STATEMENT_ID	VARCHAR2(20)	Unique identifier for this statement to track against other related reports (settlement documents, settlement reports, PIRs).

Table 118: Settlement Statement Header Field Description

Field Name	Format	Description
CHARGE_SUMMARY: DATE	DATE (YYYY-MM-DD)	Settlement date
CHARGE_SUMMARY: NAME	VARCHAR2(16)	Name of the charge
CHARGE_SUMMARY: AMOUNT	NUMBER(24,4)	Daily total of charge for all of the Participant's Unit

Table 119: Settlement Statement Summary Field Description

Field Name	Format	Description
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this charge and resource
CHARGE TYPE: NAME	VARCHAR2(16)	Name of the charge
RESOURCE_NAME	VARCHAR2(32)	Name of the resource
VALUE: AMOUNT	NUMBER(24,4)	Amount of the charge in the ISP

Table 120: Settlement Statement Detail Field Description

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER statement_id="1234567" registered_currency="EUR" run_type="INDIC" publication_timestamp="2018-07-
      25T08:06:03+00:00" publication_date="2018-07-25" settlement_date="2018-07-19" market_name="MO"
      participant_name="PT_000000" report_type="SS"/>
  - <REPORT_SUMMARY>
      <CHARGE_SUMMARY amount="0.0000" date="2018-07-19" name="CMOAU"/>
      <CHARGE_SUMMARY amount="0.0000" date="2018-07-19" name="CMOAV"/>
      <CHARGE_SUMMARY amount="-1.0000" date="2018-07-19" name="CVMO"/>
    </REPORT_SUMMARY>
  - <REPORT_DETAIL>
    - <RESOURCE name="SU_000000">
      - <CHARGE name="CVMO">
          <VALUE amount="-1.0000" datetime="2018-07-18T23:30:00+00:00"/>
          <VALUE amount="-1.0000" datetime="2018-07-19T00:00:00+00:00"/>
          <VALUE amount="-1.0000" datetime="2018-07-19T00:30:00+00:00"/>
          <VALUE amount="-1.0000" datetime="2018-07-19T01:00:00+00:00"/>
          <VALUE amount="-1.0000" datetime="2018-07-19T01:30:00+00:00"/>
```

Figure 119:REPT_043: Settlement Statement - Sample

6.7.11.2 SETTLEMENT REPORT

The Settlement Report is a report detailing the Settlement Determinants as defined by the Trading and Settlement code. For certain charges such as CAOOPO (charge for accepted offers above the PN), the charge determinants must be considered in the order they are received in a single imbalance settlement period. Other determinants such as QMLF (loss-adjusted meter volume) are not. Settlement Reports are issued to Participants for markets and run types on a schedule defined by the settlement calendar.

I-SEM Report Reference:	*REPT_044*
Data Source	CSB Settlement System
Periodicity:	Defined Schedule by the Settlement Calendar (Daily by Business Day)
File Names:	*SR_<PT_NNN>_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Settlement Report
Audience:	Member Private
Resolution:	Imbalance Settlement Period and Dispatch Period
Time Span:	Settlement Day determinants by applicable time
Frequency:	Defined Schedule by the Settlement Calendar (Daily by Business Day)

Report Format: XML

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (SR)
PARTICIPANT_NAME	VARCHAR2(12)	Participant name
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB or CRM)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)
STATEMENT_ID	VARCHAR2(20)	Identifier of the statement report generated using the values published on this Settlement Report
REGISTERED_CURRENCY	VARCHAR2(3)	GBP or EUR

Table 121: Settlement Report Header Field Description

Field Name	Format	Description
DETERMINANT NAME	VARCHAR2(16)	Name of the determinant. Note: DETERMINANT element is optional for instances where a resource has no determinants for the Settlement Day.
DETERMINANT UNIT	VARCHAR2(8)	Units for determinant (MW, EUR, etc.)
RESOURCE NAME	VARCHAR2(32)	Name of the resource. Only populated if applicable.
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Determinant Time Stamp. Only present if applicable. Example is a Bid/Offer Acceptance Time Stamp
VALUE: DATE	DATE(YYYY-MM-DD)	Date. Only present if applicable.
VALUE: ORDER	NUMBER(2)	Number of the order (may be negative). Only populated for determinants which are order-specific.
VALUE: BAND	NUMBER(2)	Number of the Price Quantity Pair for an Imbalance Settlement Period.
VALUE: AMOUNT	NUMBER(28,8)	Value of the determinant for this resource in this ISP. Only populated for determinants which are not order-specific.
VALUE: ACCEPT_TIME	TIME(YYYY-MM-DDTH24:MI)	Accept Time. Determines the Rank. Only present if applicable.
VALUE: RO_TRADE	NUMBER(20)	Value of the RO trade. Only present if applicable.
VALUE: RANK	NUMBER(2)	Rank. Only present if applicable.

Table 122: Settlement Report Detail Field Description

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER statement_id="1234567" registered_currency="EUR" run_type="INIT" publication_timestamp="2018-07-
        25T08:03:18+00:00" publication_date="2018-07-25" settlement_date="2018-07-18" market_name="BALIMB"
        participant_name="PT_000000" report_type="SR"/>
    - <REPORT_DETAIL>
        - <DETERMINANT unit="EUR" name="CBSOC">
            <VALUE amount="1.00000000" date="2018-07-18"/>
        </DETERMINANT>
        - <DETERMINANT unit="Factor" name="FCCA">
            <VALUE amount="0.00000000" datetime="2018-07-17T23:30:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-18T00:00:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-18T00:30:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-18T01:00:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-18T01:30:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-18T02:00:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-18T02:30:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-18T03:00:00+00:00"/>
```

Figure 120: REPT_044: Settlement Report - Sample

6.7.11.3 PARTICIPANT INFORMATION REPORT (PIR)

The content of this report is issued as part of the SETTLEMENT REPORT, Refer to Section 6.7.11.2.

6.7.11.4 SETTLEMENT DOCUMENT

The Settlement Document report consolidates all sales and purchases made by a participant over a billing period. The Settlement Document rolls up all of the daily total payment and charge amounts on each BALIMB and Capacity Market statement in the billing period, including any resettlement statements. If the participant is a party to any Reallocation Agreements the settlement document totals are adjusted accordingly. VAT proportions and amounts are also provided.

I-SEM Report Reference:	*REPT_045*
Data Source	CSB Settlement System
Periodicity:	As defined by Settlement Calendar (Weekly, Ad hoc as required)
File Names:	*SD_<PT_NNN>_<PublicationDay>_<PublicationDay>_<Market>_REPT_<Timestamp>*
Report Title:	Settlement Document
Audience:	Member Private
Resolution:	Settlement Charges by Charge Component by Billing Period
Time Span:	Billing Period (weekly) and ad hoc as necessary
Frequency:	Billing Period (weekly) and ad hoc as necessary
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (SD)
PARTICIPANT_ID	VARCHAR2(12)	Participant name (e.g. PT_456789)
PARTICIPANT_NAME	VARCHAR2(64)	Company name
MARKET_NAME	VARCHAR2(6)	Market name (BMCRM or MO)
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
DUE_DATE	DATE (YYYY-MM-DD)	Date for payment due to the MO or payments due from the MO
DOCUMENT_CURRENCY	VARCHAR2(3)	The currency all amounts on the document are reported in (EUR or GBP)
DOCUMENT_ID	VARCHAR2(20)	Unique identifier for this settlement document
DOCUMENT_TYPE	VARCHAR2(20)	Identifier of the type of document (Invoice, Self-Billing Invoice or Settlement Document)

Table 123: Invoice/Settlement Document Header Field Description

Field Name	Format	Description
SENDER_ID	VARCHAR2(12)	Identifier of the sender of the document (e.g. AIPSEM for Invoices)
SENDER_NAME	VARCHAR2(60)	Name of sender of Settlement Document, will relate to SEMO for Settlement Documents and Invoices, and the Participant name for Self-Billing Invoices
SENDER_ADDRESS	VARCHAR2(512)	Sender Address
SENDER_GL_NUMBER	VARCHAR2(20)	VAT number for the sender (will only be present for Invoices and Self-Blling Invoices)
RECIPIENT_ID	VARCHAR2(12)	Identifier of the recipient of the document (e.g. PT_456789)
RECIPIENT_NAME	VARCHAR2(60)	Name of recipient of Settlement Document, will relate to SEMO for Self-Billing Invoices and Participant for Settlement Documents and Invoices
RECIPIENT_ADDRESS	VARCHAR2(512)	Recipient Address
RECIPIENT_GL_NUMBER	VARCHAR2(20)	VAT number for the recipient (will only be present for Invoices and Self-Blling Invoices)
VAT_JURISDICTION	VARCHAR2(3)	VAT Jurisdiction (will only be present for Invoices and Self-Blling Invoices)

Table 124: Invoice/Settlement Document Contact Field Description

Field Name	Format	Description
NET_AMOUNT	NUMBER(22,2)	Net amount to be paid or pay (prior to any application of VAT), only present for Invoices and Self-Billing Invoices
TAX_RATE	NUMBER(22,2)	VAT Rate to be applied (e.g. 0.23 representing 23%), only present for Invoices and Self-Billing Invoices
TAX_AMOUNT	NUMBER(22,2)	Tax amount (Net Amount multiplied by Tax Rate), only present for Invoices and Self-Billing Invoices

Field Name	Format	Description
S_TOTAL (TOTAL SALES)	NUMBER(22,2)	Sales Totals (sum of S_LOCAL, S_EU, S_NONEU). The change in value from the previous Settlement document.
S_LOCAL (LOCAL SALES)	NUMBER(22,2)	Local Sales Totals, only present for Settlement Documents. The change in value from the previous Settlement document.
S_EU (EU SALES)	NUMBER(22,2)	EU Sales Totals, only present for Settlement Documents. The change in value from the previous Settlement document.
S_NEU (NON-EU SALES)	NUMBER(22,2)	Non-EU Sales Totals, only present for Settlement Documents. The change in value from the previous Settlement document.
P_TOTAL (TOTAL PURCHASES)	NUMBER(22,2)	Purchases Totals (sum of P_LOCAL, P_EU, P_NONEU). The change in value from the previous Settlement document.
P_LOCAL (LOCAL PURCHASES)	NUMBER(22,2)	Local Purchases Totals, only present for Settlement Documents. The change in value from the previous Settlement document.
P_EU (EU PURCHASES)	NUMBER(22,2)	EU Purchases Totals, only present for Settlement Documents. The change in value from the previous Settlement document.
P_NEU (NON-EU PURCHASES)	NUMBER(22,2)	Non-EU Purchases Totals, only present for Settlement Documents. The change in value from the previous Settlement document.
INTEREST	NUMBER(22,2)	Total Interest
PRELIMINARY TOTAL	NUMBER(22,2)	Total Amount before SRA
REALLOCATION_TOTAL	NUMBER(22,2)	Reallocation Total
GRAND TOTAL	NUMBER(22,2)	Total Amount. A positive Grand Total on a Settlement Document will indicate payment direction "SEMO to Pay Participant". A negative Grand Total on a Settlement Document will indicate payment direction "Participant to Pay SEMO"
PAYMENT_TYPE	VARCHAR2(48)	Indicator of payment direction, "Participant to Pay SEMO" or "SEMO to Pay Participant"

Table 125: Invoice/Settlement Document Summary Field Description

Field Name	Format	Description
RUN_TYPE	VARCHAR2(4)	INIT, M4, M13 or AH
BP_START_DATE	DATE (YYYY-MM-DD)	Billing Period Start Date
BP_END_DATE	DATE (YYYY-MM-DD)	Billing Period End Date
MARKET	VARCHAR2(6)	Market name (BALIMB, CRM, FMOC or MO)
CHARGE_NAME	VARCHAR2(16)	Charge Identifier (see Appendix B for details)
PREVIOUS_GROSS_AMOUNT	NUMBER(22,2)	Previous Gross Amount for Charge (will be zero for Initial Run). Amount used on previous Settlement Document. (VAT Is not included in this amount)
NEW_GROSS_AMOUNT	NUMBER(22,2)	Gross Amount Calculated based on latest Settlement Statements. (VAT Is not included in this amount)
NET_AMOUNT	NUMBER(22,2)	NEW_GROSS_AMOUNT - PREVIOUS_GROSS_AMOUNT
TAX_CATEGORY	VARCHAR2(16)	Tax Category
TAX_AMOUNT	NUMBER(22,2)	vat Amount is based on NET_AMOUNT and TAX_RATE, only present for Invoices and Self-Billing Invoices
TAX_RATE	NUMBER(22,2)	VAT Rate to be applied (e.g. 0.23 representing 23%), only present for Invoices and Self-Billing Invoices, only present for Invoices and Self-Billing Invoices

Field Name	Format	Description
INTEREST	NUMBER(22,2)	Applicable interest in relation to settlement or resettlement, only present for Invoices and Self-Billing Invoices
SALES: S_TOTAL	NUMBER(22,2)	Total Sales
SALES: S_LOCAL	NUMBER(22,2)	Local Sales
SALES: S_EU	NUMBER(22,2)	EU (excluding Local) Sales
SALES: S_NEU	NUMBER(22,2)	Non-EU Sales
SALES: S_TOTAL_PREV	NUMBER(22,2)	Previous Total Sales
SALES: S_LOCAL_PREV	NUMBER(22,2)	Previous Local Sales
SALES: S_EU_PREV	NUMBER(22,2)	Previous EU Sales
SALES: S_NEU_PREV	NUMBER(22,2)	Previous Non EU Sales
SALES: S_VAT_TOTAL	NUMBER(22,2)	Total Sales VAT amount, only present for Invoices and Self-Billing Invoices
SALES: S_VAT_LOCAL	NUMBER(22,2)	Local Sales VAT amount, only present for Invoices and Self-Billing Invoices
SALES: S_VAT_EU	NUMBER(22,2)	EU (excludes Local) Sales VAT amount, only present for Invoices and Self-Billing Invoices
SALES: S_VAT_EU_PREV	NUMBER(22,2)	Previous EU Sales VAT amount, only present for Invoices and Self-Billing Invoices
SALES: S_VAT_LOCAL_PREV	NUMBER(22,2)	Previous Local Sales VAT amount, only present for Invoices and Self-Billing Invoices
SALES: S_VAT_TOTAL_PREV	NUMBER(22,2)	Previous Total Sales VAT amount, only present for Invoices and Self-Billing Invoices
PURCHAES: P_TOTAL	NUMBER(22,2)	Total Purchases
PURCHAES: P_LOCAL	NUMBER(22,2)	Local Purchases
PURCHAES: P_EU	NUMBER(22,2)	EU (excluding Local) Purchases
PURCHAES: P_NEU	NUMBER(22,2)	Non-EU Purchases
PURCHAES: P_TOTAL_PREV	NUMBER(22,2)	Previous Total Purchases
PURCHAES: P_LOCAL_PREV	NUMBER(22,2)	Previous Local Purchases
PURCHAES: P_EU_PREV (EU PURCHASES)	NUMBER(22,2)	Previous EU (excluding Local) Purchases
PURCHAES: P_NEU_PREV (NON-EU PURCHASES)	NUMBER(22,2)	Previous Non-EU Purchases
PURCHAES: P_VAT_TOTAL	NUMBER(22,2)	Total Purchases VAT amount, only present for Invoices and Self-Billing Invoices
PURCHAES: P_VAT_LOCAL	NUMBER(22,2)	Local Purchases VAT amount, only present for Invoices and Self-Billing Invoices
PURCHAES: P_VAT_EU	NUMBER(22,2)	EU (excludes Local) Purchase VAT amount, only present for Invoices and Self-Billing Invoices
PURCHAES: P_VAT_EU_PREV	NUMBER(22,2)	Previous EU (excluding Local) Purchases VAT amount, only present for Invoices and Self-Billing Invoices
PURCHAES: P_VAT_LOCAL_PREV	NUMBER(22,2)	Previous Local Purchases VAT amount, only present for Invoices and Self-Billing Invoices
PURCHAES: P_VAT_TOTAL_PREV	NUMBER(22,2)	Previous Total Purchase VAT amount, only present for Invoices and Self-Billing Invoices

Table 126: Invoice/Settlement Document Detail Field Description

Field Name	Format	Description
TRACKING: STATEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
TRACKING: RUN_TYPE	VARCHAR2(8)	Initial, M+4, M+13 or Ad-Hoc
TRACKING: MARKET	VARCHAR2(24)	Market name (BMCRM, or MO)
TRACKING: CHARGE_NAME	VARCHAR2(24)	Charge Name (see Appendix B for details)
TRACKING: CHARGE_AMOUNT	NUMBER(22,2)	Charge Amount
TRACKING: STATEMENT_ID	VARCHAR2(20)	Statement ID

Table 127: Invoice/Settlement Document Tracking Field Description

Field Name	Format	Description
SRA: SRA_COUNTERPARTY	VARCHAR2(24)	Counterparty
SRA: SRA_AMOUNT	NUMBER(28,2)	Amount

Table 128: Invoice/Settlement Document Reallocation Agreement Field Description

Legal information regarding VAT is provided via one of two sections within the Settlement Document or Invoice, contained within a VAT_INFORMATION xml tag:

- STANDARD_INFORMATION for Settlement Documents; or

- MO_STANDARD_INFORMATION for Invoices and Self-Billing Invoices.

Field Name	Format	Description
VAT_TEXT	VARCHAR2(1024)	Legal VAT text (element will appear multiple times)

Table 129: Invoice/Settlement Document Legal VAT Text Field Description

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER document_type="Settlement Document" document_id="1234" document_currency="GBP" due_date="2018-
      07-26" publication_timestamp="2018-07-20T08:45:19+00:00" publication_date="2018-07-20" market="BMCRM"
      participant_name="Power NI" participant_id="PT_000000" report_type="SD"/>
    <CONTACT vat_jurisdiction="NI" recipient_address="123 Daffodil Lane, Belfast, BT0 0RT, UK" recipient_id="SONI ltd."
      sender_address="555 Cherry Blossom Road, Cork, NI" sender_id="PT_000000"/>
    <REPORT_SUMMARY payment_type="SEMO to Pay Participant" s_neu="0.00" p_neu="0.00" s_eu="1.00" p_eu="-1.00"
      s_local="1.00" p_local="-1.00" s_total="1.00" p_total="-1.00" interest="0.00" preliminary_total="1.00"
      reallocation_total="1.00" grand_total="1.00"/>
  - <REPORT_DETAIL>
    - <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CCA" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
        <SALES s_neu="0.00" s_eu="0.00" s_local="0.00" s_total="0.00" s_neu_prev="0.00" s_eu_prev="0.00"
          s_local_prev="0.00" s_total_prev="0.00"/>
        <PURCHASES p_neu="0.00" p_eu="0.00" p_local="0.00" p_total="0.00" p_neu_prev="0.00" p_eu_prev="0.00"
          p_local_prev="0.00" p_total_prev="0.00"/>
      </DETAIL>
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CCURL" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CDIFFCDA" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CDIFFCNP" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CDIFFCWD" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CDIFFPDA" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CDIFFPID" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CDIFFPIMB" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CDISCOUNT" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="1.00" new_gross_amount="1.00" previous_gross_amount="0.00"
        charge_name="CFC" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="1.00" new_gross_amount="1.00" previous_gross_amount="0.00"
        charge_name="CIMB" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="-1.00" new_gross_amount="-1.00" previous_gross_amount="0.00"
        charge_name="CIMP" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CPREMIUM" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CREIMDIFFP" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="-1.00" new_gross_amount="-1.00" previous_gross_amount="0.00"
        charge_name="CREV" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CSHORTDIFFP" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CTEST" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="-1.00" new_gross_amount="-1.00" previous_gross_amount="0.00"
        charge_name="CUNIMB" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CABBPO" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    + <DETAIL market="BALIMB" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00"
        charge_name="CAOOPO" bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
    </REPORT_DETAIL>
  + <REPORT_TRACKING>
  - <REPORT_SRA>
      <SRA sra_amount="1.00" sra_counterparty="PT_000001"/>
    </REPORT_SRA>
  - <VAT_INFORMATION>
```

Figure 121: REPT_045: Settlement Document - Sample

```xml
<?xml version="1.0" encoding="UTF-8"?>
<REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER document_type="Invoice" document_id="000000000" document_currency="EUR" due_date="2020-02-14" publication_timestamp="2020-02-
        04T15:46:16+00:00" publication_date="2020-02-04" market="MO" participant_name="Company" participant_id="PT_123456" report_type="SD"/>
    <CONTACT vat_jurisdiction="ROI" recipient_gl_number="XXXXXXXX" recipient_address="Addressss" recipient_name="COMPANY" recipient_id="PT_123456"
        sender_gl_number="FFFFFF" sender_address="Addresss" sender_name="EirGrid PLC and SONI Ltd T/A SEMO" sender_id="SEMO"/>
    <REPORT_SUMMARY payment_type="PAY" s_neu="0.00" p_neu="0.00" s_eu="0.00" p_eu="0.00" s_local="0.00" p_local="0" s_total="0.00" p_total="0"
        interest="0.00" tax_amount="0" tax_rate="0" net_amount="0" preliminary_total="0" reallocation_total="0" grand_total="0"/>
  - <REPORT_DETAIL>
      - <DETAIL market="MO" interest="0.00" tax_amount="0" tax_rate="0" net_amount="0" new_gross_amount="0" previous_gross_amount="0.00"
          charge_name="CVMO" bp_end_date="2020-01-31" bp_start_date="2020-01-01" run_type="INIT">
            <SALES s_neu="0.00" s_eu="0.00" s_local="0.00" s_total="0.00" s_vat_neu_prev="0.00" s_vat_eu_prev="0" s_vat_local_prev="0" s_vat_total_prev="0.00"
                s_vat_neu="0.00" s_vat_eu="0.00" s_vat_local="0.00" s_vat_total="0.00" s_neu_prev="0.00" s_eu_prev="0.00" s_local_prev="0" s_total_prev="0"/>
            <PURCHASES p_neu="0" p_eu="0" p_local="0" p_total="0" p_vat_neu_prev="0.00" p_vat_eu_prev="0.00" p_vat_local_prev="0.00" p_vat_total_prev="0.00"
                p_vat_neu="0.00" p_vat_eu="0" p_vat_local="0" p_vat_total="0" p_neu_prev="0.00" p_eu_prev="0.00" p_local_prev="0" p_total_prev="0"/>
        </DETAIL>
      - <DETAIL market="FMOC" interest="0.00" net_amount="0" new_gross_amount="0" previous_gross_amount="0.00" charge_name="CMOAV" bp_end_date="2020-
          01-31" bp_start_date="2020-01-01" run_type="INIT">
            <SALES s_neu="0.00" s_eu="0.00" s_local="0.00" s_total="0.00" s_neu_prev="0.00" s_eu_prev="0.00" s_local_prev="0.00" s_total_prev="0.00"/>
            <PURCHASES p_neu="0.00" p_eu="0.00" p_local="0" p_total="0" p_neu_prev="0.00" p_eu_prev="0.00" p_local_prev="0.00" p_total_prev="0.00"/>
        </DETAIL>
      - <DETAIL market="FMOC" interest="0.00" net_amount="0.00" new_gross_amount="0.00" previous_gross_amount="0.00" charge_name="CMOAU"
          bp_end_date="2020-01-31" bp_start_date="2020-01-01" run_type="INIT">
            <SALES s_neu="0.00" s_eu="0.00" s_local="0.00" s_total="0.00" s_neu_prev="0.00" s_eu_prev="0.00" s_local_prev="0.00" s_total_prev="0.00"/>
            <PURCHASES p_neu="0.00" p_eu="0.00" p_local="0.00" p_total="0.00" p_neu_prev="0.00" p_eu_prev="0.00" p_local_prev="0.00" p_total_prev="0.00"/>
        </DETAIL>
    </REPORT_DETAIL>
  + <REPORT_TRACKING>
  - <REPORT_SRA>
        <SRA sra_amount="0" sra_counterparty="PT_123456"/>
        <SRA sra_amount="0" sra_counterparty="PT_123456"/>
        <SRA sra_amount="0" sra_counterparty="PT_123456"/>
        <SRA sra_amount="0" sra_counterparty="PT_123456"/>
        <SRA sra_amount="0" sra_counterparty="PT_123456"/>
        <SRA sra_amount="0" sra_counterparty="PT_123456"/>
    </REPORT_SRA>
```

Figure 122: REPT_045: Invoice - Sample

6.7.11.5 REALLOCATION REQUESTS

The Reallocation Requests report lists the beginning and end dates (where applicable) of the Reallocation Agreements between parties.

I-SEM Report Reference:	REPT_046
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	SA_<PT_NNN>_<PublicationDay>_<PublicationDay>_ALL_REPT_<Timestamp>
Report Title:	Reallocation Requests
Audience:	Member Private, EirGrid Internal (all Reallocation Agreements)
Resolution:	Term of Reallocation Agreement (could be open or no termination date)
Time Span:	Term of Reallocation Agreement (could be open or no termination date)
Frequency:	Daily, ad hoc as required
Report Format:	XML

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (SA)
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
PARTICIPANT_NAME	VARCHAR2(12)	Participant name

Table 130: Reallocation Agreement Report Header Field Description

Field Name	Format	Description
REALLOCATION_AGREEMENT: PRINCIPAL	VARCHAR2(12)	Principal Participant Name
REALLOCATION_AGREEMENT: SECONDARY	VARCHAR2(12)	Secondary Participant name
REALLOCATION_AGREEMENT: BEGIN_DATE	DATE (YYYY-MM-DD)	Begin Date of Reallocation Agreement
REALLOCATION_AGREEMENT: END_DATE	DATE (YYYY-MM-DD)	End Date of Reallocation Agreement. Only populated if applicable

Table131: Reallocation Agreement Report Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER publication_timestamp="2018-07-25T08:11:28+00:00" publication_date="2018-07-25" participant_name="PT_000000"
        report_type="SA"/>
    - <REPORT_DETAIL>
        <REALLOCATION_AGREEMENT end_date="2038-06-16" begin_date="2018-06-24" secondary="PT_000000" principal="PT_000001"/>
    </REPORT_DETAIL>
</REPORT>
```

Figure 123: REPT_046: Reallocation Agreement Report - Sample

6.7.11.6 COLLATERAL REPORT

The credit calculation is expected to be run at least daily on a Business Day. The collateral report is a member private report on the result of the credit calculation. The result set and the components making up the Required Credit Cover Amount (such as Posted Credit Cover. Fixed Credit Cover, Actual Liability, Traded Not Delivered, Undefined Exposure and Forecast Reallocation Agreement) will be determinants in the report. In addition, the report will have a flag indicating if the participant's collateral status is either:

- OK (Credit Cover Requirement is less than posted collateral);
- WARNING if the ratio of Required Credit Cover to Posted Credit Cover exceeds the Warning Limit;
- BREACH if the ratio of Required Credit Cover to Posted Credit Cover exceeds the Breach Limit; EXCESS when posted collateral is greater than the Credit Cover Requirement by a defined margin.

I-SEM Report Reference:	*REPT_048*
Data Source	CSB Settlement System
Periodicity:	Daily, Ad hoc as necessary
File Names:	*CR_<PT_NNN>_<PublicationDay>_<PublicationDay>_ALL_REPT_<Timestamp>*
Report Title:	Collateral Report
Audience:	Member Private, EirGrid Internal for all Participants
Resolution:	Credit Cover Requirement by Exposure Period and Posted Collateral
Time Span:	Daily Exposure and Posted Collateral
Frequency:	Daily Exposure and Posted Collateral
Report Format:	XML

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (CR)
PARTICIPANT_NAME	VARCHAR2(12)	Participant name
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication

Table 132: Collateral Report Header Field Description

Field Name	Format	Description
PARTICIPANT_STATUS	VARCHAR2(24)	New Adjusted Standard
CURRENCY	VARCHAR2(3)	Participant Currency (EUR or GBP)

CREDIT STATUS	VARCHAR2(24)	o "OK = Posted Credit Cover is within sufficient limits of Required Credit Cover; o WARNING = Posted Credit Cover is within warning limits of Required Credit Cover (e.g. PCC to RCC ratio is above 80%); o BREACH = Posted Credit Cover is less than Required Credit Cover; o EXCEED = Posted Credit Cover is in excess of Required Credit Cover to the limit that a refund is allowable
REQUIRED_COLLATERAL	NUMBER(22,2)	Required collateral for the Participant
POSTED_COLLATERAL_CASH	NUMBER(22,2)	Posted cash collateral for the Participant
POSTED_COLLATERAL_OTHER	NUMBER(22,2)	Posted non-cash collateral for the Participant

Table 133: Collateral Report Summary Field Description

Field Name	Format	Description
ACTUAL_EXPOSURE:Amount	NUMBER(22,2)	Actual exposure for the Participant
FIXED_CREDIT_REQUIREMENT: Amount	NUMBER(22,2)	Fixed Credit Requirement for the Participant
FORECAST_SRA: Amount	NUMBER(22,2)	SRA amounts for the Participant
PCA: Amount	NUMBER(28,8)	Credit Assessment Price
TRADED_NOT_DELIVERED_EXPOSURE: Amount	NUMBER(22,2)	Traded not delivered exposure for the Participant
BILLED_NOT_PAID_EXPOSURE: Amount	NUMBER(22,2)	Billed not paid exposure for the Participant
SETTLED_NOT_BILLED_EXPOSURE: Amount	NUMBER(22,2)	Settled not billed exposure for the Participant
UNDEFINED_EXPOSURE: Amount	NUMBER(22,2)	Undefined exposure for the Participant

Table134: Collateral Report Detail Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER publication_timestamp="2018-07-25T08:30:32+00:00" publication_date="2018-07-25" participant_name="PT_000000"
      report_type="CR"/>
    <REPORT_SUMMARY credit_status="BREACH" participant_status="Standard" currency="GBP" required_collateral="1000000.00"
      posted_collateral_other="0" posted_collateral_cash="3000000"/>
  - <REPORT_DETAIL>
      <ACTUAL_EXPOSURE amount="1987632.48"/>
      <BILLED_NOT_PAID_EXPOSURE amount="2005487.16"/>
      <FIXED_CREDIT_REQUIREMENT amount="-20000.00"/>
      <FORECAST_SRA amount="4687913.78"/>
      <PCA amount="56.00059876"/>
      <SETTLED_NOT_BILLED_EXPOSURE amount="-549376.68"/>
      <TRADED_NOT_DELIVERED_EXPOSURE amount="-3615794.64"/>
      <UNDEFINED_EXPOSURE amount="-6975338.21"/>
    </REPORT_DETAIL>
</REPORT>
```

Figure 124: REPT_048: Collateral Report - Sample

6.7.11.7 COLLATERAL REFUND NOTICE

The Collateral Refund Notice is reported as part of the Collateral Report (refer to Section 6.7.11.6), where the STATUS field for the participant equals EXCESS.

6.7.11.8 ENERGY MARKET FINANCIAL PUBLICATION – INDICATIVE

The Energy Market Financial Publication, Energy Market Information Publication, Capacity Market Financial Publication, Capacity Market Information Publication, Metered Generation Information Publication, DOG/PUG/TOLOG/TOLUG for Over/Under Generation, and Make Whole Payment will share the common set of fields given here. These reports are collectively referred to as "General Public Settlement Reports".

I-SEM Report Reference:	*REPT_055*
Data Source	CSB Settlement System
Periodicity:	Daily

File Names:	*EF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Financial Publication - Indicative
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR(2)	Identifier for Report (EF)
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT,M4, M13, AH)

Table 135: Energy Market Financial Publication Header Field Description

Field Name	Format	Description
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource
DETERMINANT:NAME	VARCHAR2(16)	Name of the determinant
RESOURCE: NAME	VARCHAR2(32)	Name of the resource (if applicable)
DETERMINANT: UNIT	VARCHAR2(8)	Units for the determinant (e.g. MW)
VALUE: AMOUNT	NUMBER(28,8)	Amount of the determinant in the ISP

Table 136: Energy Market Financial Publication Detail Field Description

Figure 125: REPT_055/056/104/105/106: Energy Market Financial Report - Sample

6.7.11.9 ENERGY MARKET FINANCIAL PUBLICATION – INITIAL

Refer to section 6.7.11.8 Energy Market Financial Publication – Indicative

I-SEM Report Reference:	*REPT_056*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Financial Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.10 ENERGY MARKET FINANCIAL PUBLICATION – M+4

Refer to section 6.7.11.8 Energy Market Financial Publication – Indicative

I-SEM Report Reference:	*REPT_104*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Financial Publication – M+4
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.11   ENERGY MARKET FINANCIAL PUBLICATION – M+13

Refer to section 6.7.11.8 Energy Market Financial Publication – Indicative

I-SEM Report Reference:	*REPT_105*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Financial Publication – M+13
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.12   ENERGY MARKET FINANCIAL PUBLICATION – ADHOC

Refer to section 6.7.11.8 Energy Market Financial Publication – Indicative

I-SEM Report Reference:	*REPT_106*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Financial Publication – Adhoc
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.13   ENERGY MARKET INFORMATION PUBLICATION – INDICATIVE

I-SEM Report Reference:	*REPT_057*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*

Report Title:	Energy Market Information Publication - Indicative
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR(2)	Identifier for Report (EI)
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)

Table 137: Energy Market Information Publication Header Field Description

Field Name	Format	Description
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource
VALUE: DATE	DATE (YYYY-MM-DD)	Date. Only present if applicable.
DETERMINANT:NAME	VARCHAR2(16)	Name of the determinant
RESOURCE: NAME	VARCHAR2(32)	Name of the resource (if applicable)
DETERMINANT: UNIT	VARCHAR2(8)	Units for the determinant (e.g. MW)
VALUE: AMOUNT	NUMBER(28,8)	Amount of the determinant in the ISP
VALUE: ORDER	STRING(25)	Number of the order (may be negative). Only populated for determinants which are order-specific.
VALUE: BAND	NUMBER(2)	Number of the Price Quantity Pair for an Imbalance Settlement Period. Only present if applicable.
VALUE: ACCEPT_TIME	TIME(YYYY-MM-DDTH24:MI)	Accept Time. Determines the Rank. Only present if applicable.

Table 138: Energy Market Information Publication Detail Field Description

Figure 126: REPT_057/058/107/108/109: Energy Market Information Report - Sample

6.7.11.14   ENERGY MARKET INFORMATION PUBLICATION – INITIAL

Refer to section 6.7.11.103

I-SEM Report Reference:	*REPT_058*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.15   ENERGY MARKET INFORMATION PUBLICATION – M+4

Refer to section 6.7.11.103

I-SEM Report Reference:	*REPT_107*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.16   ENERGY MARKET INFORMATION PUBLICATION – M+13

Refer to section 6.7.11.103

I-SEM Report Reference:	*REPT_108*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.17   ENERGY MARKET INFORMATION PUBLICATION – ADHOC

Refer to section 6.7.11.103

I-SEM Report Reference:	*REPT_109*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*EI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Energy Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.18   CAPACITY MARKET INFORMATION PUBLICATION – INDICATIVE

I-SEM Report Reference:	*REPT_061*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Market Information Publication - Indicative
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR(2)	Identifier for Report (CI)
MARKET_NAME	VARCHAR2(6)	Market name (CRM)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)

Table 139: Capacity Market Information Publication Header Field Description

Field Name	Format	Description
VALUE: DATE	DATE (YYYY-MM-DD)	Date for this determinant and resource
DETERMINANT:NAME	VARCHAR2(16)	Name of the determinant
RESOURCE: NAME	VARCHAR2(32)	Name of the resource (if applicable)
DETERMINANT: UNIT	VARCHAR2(8)	Units for the determinant (e.g. MW)
VALUE: AMOUNT	NUMBER(28,8)	Amount of the determinant in the ISP
VALUE: RO_TRADE	NUMBER(20)	RO trade. Only present if applicable.

Table 140: Capacity Market Information Publication Detail Field Description

```xml
<?xml version="1.0" encoding="UTF-8"?>
<REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER run_type="INDIC" publication_timestamp="2018-07-16T15:32:36+00:00" publication_date="2018-07-16"
        settlement_date="2018-07-15" market_name="CRM" report_type="CI"/>
    <REPORT_DETAIL>
        <RESOURCE name="CAU_400301">
            <DETERMINANT name="qC" unit="MW">
                <VALUE ro_trade="1200962" amount="39.97500000" date="2018-07-15"/>
                <VALUE ro_trade="1200963" amount="159.90100000" date="2018-07-15"/>
            </DETERMINANT>
        </RESOURCE>
        <RESOURCE name="CAU_400302">
            <DETERMINANT name="qC" unit="MW">
                <VALUE ro_trade="1200972" amount="1.47100000" date="2018-07-15"/>
                <VALUE ro_trade="1200973" amount="5.88400000" date="2018-07-15"/>
            </DETERMINANT>
        </RESOURCE>
        <RESOURCE name="CAU_500301">
            <DETERMINANT name="qC" unit="MW">
                <VALUE ro_trade="1201043" amount="8.29800000" date="2018-07-15"/>
                <VALUE ro_trade="1201042" amount="2.07400000" date="2018-07-15"/>
            </DETERMINANT>
```

Figure 127: REPT_061/062/113/114/115: Capacity Market Information Report - Sample

6.7.11.19   CAPACITY MARKET INFORMATION PUBLICATION – INITIAL

Refer to section 6.7.11.188

I-SEM Report Reference:	*REPT_062*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*

Report Title:	Capacity Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	XML

6.7.11.20   CAPACITY MARKET INFORMATION PUBLICATION – M+4

Refer to section 6.7.11.188

I-SEM Report Reference:	*REPT_113*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp >*
Report Title:	Capacity Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	XML

6.7.11.21   CAPACITY MARKET INFORMATION PUBLICATION – M+13

Refer to section 6.7.11.188

I-SEM Report Reference:	*REPT_114*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp >*
Report Title:	Capacity Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	XML

6.7.11.22   CAPACITY MARKET INFORMATION PUBLICATION – ADHOC

Refer to section 6.7.11.188

I-SEM Report Reference:	*REPT_115*
Data Source	CSB Settlement System
Periodicity:	Daily

File Names:	*CI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Market Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.23 CAPACITY MARKET FINANCIAL PUBLICATION – INDICATIVE

I-SEM Report Reference:	*REPT_059*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Market Financial Publication - Indicative
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR(2)	Identifier for Report (CF)
MARKET_NAME	VARCHAR2(6)	Market name (CRM)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)

Table 141: Capacity Market Financial Publication -Header Field Description

Field Name	Format	Description
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource
DETERMINANT:NAME	VARCHAR2(16)	Name of the determinant
RESOURCE: NAME	VARCHAR2(32)	Name of the resource (if applicable)
DETERMINANT: UNIT	VARCHAR2(8)	Units for the determinant (e.g. MW)
VALUE: AMOUNT	NUMBER(28,8)	Amount of the determinant in the ISP

Table 142: Capacity Market Financial Publication -Detail Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER run_type="INDIC" publication_timestamp="2018-07-16T15:29:51+00:00" publication_date="2018-07-16"
      settlement_date="2018-07-15" market_name="CRM" report_type="CF"/>
    - <REPORT_DETAIL>
      - <RESOURCE name="CAU_400301">
        - <DETERMINANT name="CCP" unit="EUR">
            <VALUE amount="399.29566200" datetime="2018-07-14T23:30:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T00:00:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T00:30:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T01:00:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T01:30:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T02:00:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T02:30:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T03:00:00+00:00"/>
            <VALUE amount="399.29566200" datetime="2018-07-15T03:30:00+00:00"/>
```

Figure 128: REPT_059/060/110/111/112: Capacity Market Financial Report - Sample

6.7.11.24 CAPACITY MARKET FINANCIAL PUBLICATION - INITIAL

Refer to section 6.7.11.2323

I-SEM Report Reference:	*REPT_060*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Market Financial Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.25   CAPACITY MARKET FINANCIAL PUBLICATION – M+4

Refer to section 6.7.11.2323

I-SEM Report Reference:	*REPT_110*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Market Financial Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.26   CAPACITY MARKET FINANCIAL PUBLICATION – M+13

Refer to section 6.7.11.2323

I-SEM Report Reference:	*REPT_111*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Market Financial Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.27   CAPACITY MARKET FINANCIAL PUBLICATION - ADHOC

Refer to section 6.7.11.2323

I-SEM Report Reference:	*REPT_112*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Market Financial Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.28 METERED GENERATION INFORMATION PUBLICATION - INDICATIVE

I-SEM Report Reference:	*REPT_063*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*MI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Metered Generation Information Publication - Indicative
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR(2)	Identifier for Report (MI)
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)

Table 143: Metered Generation Information Publication Header Field Description

Field Name	Format	Description
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource
DETERMINANT:NAME	VARCHAR2(16)	Name of the determinant
RESOURCE: NAME	VARCHAR2(32)	Name of the resource (if applicable)
DETERMINANT: UNIT	VARCHAR2(8)	Units for the determinant (e.g. MW)
VALUE: QUANTITY	NUMBER(28,8)	Quantity of the determinant in the ISP

Table 144: Metered Generation Information Publication Detail Field Description

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER run_type="INDIC" publication_timestamp="2018-07-16T16:22:39+00:00" publication_date="2018-07-16"
      settlement_date="2018-07-15" market_name="BALIMB" report_type="MI"/>
  - <REPORT_DETAIL>
    + <RESOURCE name="AU_400001">
    - <RESOURCE name="AU_400002">
      - <DETERMINANT name="QM" unit="MWh">
          <VALUE quantity="0.00000000" datetime="2018-07-14T23:30:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T00:00:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T00:30:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T01:00:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T01:30:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T02:00:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T02:30:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T03:00:00+00:00"/>
          <VALUE quantity="0.00000000" datetime="2018-07-15T03:30:00+00:00"/>
```

Figure 129: REPT_063/064/116/117/118: Metered Generation Information Report - Sample

6.7.11.29 METERED GENERATION INFORMATION PUBLICATION - INITIAL

Refer to section 6.7.11.2828

I-SEM Report Reference:	*REPT_064*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*MI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Metered Generation Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.30 METERED GENERATION INFORMATION PUBLICATION – M+4

Refer to section 6.7.11.2828

I-SEM Report Reference:	*REPT_116*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*MI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Metered Generation Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.31 METERED GENERATION INFORMATION PUBLICATION – M+13

Refer to section 6.7.11.2828

I-SEM Report Reference:	*REPT_117*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*MI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Metered Generation Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.32 METERED GENERATION INFORMATION PUBLICATION – ADHOC

Refer to section 6.7.11.2828

I-SEM Report Reference:	*REPT_118*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*MI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	Metered Generation Information Publication - Initial
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

6.7.11.33 DOG/PUG/TOLOG/TOLUG FOR OVER/UNDER GENERATION

I-SEM Report Reference:	*REPT_065*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*GP_GP_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>*
Report Title:	DOG/PUG/TOLOG/TOLUG for Over/Under Generation
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Market Volume and Settlement by Settlement Period
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (GP)
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement

PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)

Table 145: Under/Over Generation Report Header Field Description

Field Name	Format	Description
RESOURCE NAME	VARCHAR2(32)	Name of the resource. Only populated if applicable.
DETERMINANT NAME	VARCHAR2(16)	Name of the determinant
DETERMINANT UNIT	VARCHAR2(8)	Units for determinant (MW, MWh, etc.)
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource
VALUE AMOUNT	NUMBER(28,8)	Value of the determinant for this resource in this ISP.

Table 146: Under/Over Generation Report Field Description

```xml
<?xml version="1.0" encoding="UTF-8"?>
<REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER run_type="INDIC" publication_timestamp="2018-07-16T16:14:12+00:00" publication_date="2018-07-16"
        settlement_date="2018-07-14" market_name="BALIMB" report_type="GP"/>
    <REPORT_DETAIL>
        <RESOURCE name="DSU_402180">
            <DETERMINANT name="TOLOG" unit="MWh">
                <VALUE amount="1.00000000" datetime="2018-07-14T00:00:00+00:00"/>
                <VALUE amount="1.00000000" datetime="2018-07-14T00:30:00+00:00"/>
                <VALUE amount="1.00000000" datetime="2018-07-14T01:00:00+00:00"/>
```

Figure 130: REPT_065: Under/Over Generation Report - Sample

6.7.11.34   SETTLEMENT CALENDAR

This report is available to all Participants and the general public. Each entry in the settlement calendar has a Calendar Event describing an expected event such as the availability of settlement reports or payment timelines.

I-SEM Report Reference:	*REPT_067*
Data Source	CSB Settlement System
Periodicity:	Annually Set, updated ad hoc as required
File Names:	*SC_PT_ALL_<SettlementDay/OperatingDay>_<PublicationDay>_ALL_REPT_<Timestamp>* (see note below[27])
Report Title:	Settlement Calendar
Audience:	General Public
Resolution:	*Event by Calendar Day*
Time Span:	Annually, updated ad hoc as required
Frequency:	Annually set, updated as necessary
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (SC)
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication

Table 147: Settlement Calendar Header Field Description

Field Name	Format	Description
OPERATIONAL DATE	DATE (YYYY-MM-DD)	This is the date the run defined by the calendar entry occurs on, and is the default sort key for the calendar.
MARKET	VARCHAR2(6)	This describes the primary separation of settlements, and is expected to have the following four values: o Imbalance (BALIMB) o Capacity Market (CRM) o Market Operator (MO) o Fixed Market Operator Charge (FMOC)

---

[27] File Type – can be either Operational day or Settlement day depending on how the report is generated

PUBLICATION	VARCHAR2(24)	This field contains those calendar events marked as Publish, and describes the type of document produced by the run for this calendar entry. Following the SEM settlement calendar, the Publication field is expected to have the following values: o Statements o Settlement Documents o Payments IN o Payments OUT o MDP submission timelines
RUN_TYPE	VARCHAR2(5)	This field describes the run identifier. Following the SEM settlement calendar, the Run field is expected to have the following values: o Indicative (INDIC) o Initial (INIT) o M4 (M4) o M13 (M13) o Ad hoc (AH)
PERIOD_TYPE	VARCHAR2(24)	This field defines the number of days that make up the particular run. In I-SEM, Indicative and Initial runs for Statements are anticipated to have a Period Type of Day and otherwise a Period Type of Week, while all runs applying to Settlement Documents are anticipated to have a Period Type of Week. Although it is currently anticipated to follow the same timeline as the Imbalance market, the Capacity Market may require a Month period type.
PERIOD_END_DATE	DATE (YYYY-MM-DD)	This field defines the end of the last day in the settlement period defined by the Period Type.
MODIFIED	DATE (YYYY-MM-DD)	This value of this field is the last modification date of the calendar entry. Here, "modification" includes both a new entry and an updated entry.
COMMENTS	VARCHAR2(512)	This field is a free-form text entry. The current SEM settlement calendar uses comments such as "Payments in by 12:00", "Published by 17:00", and "Week 44 2015".

Table 148: Settlement Calendar Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER publication_timestamp="2018-06-22T14:30:26+00:00" report_type="SC"/>
  - <REPORT_DETAIL>
    - <CALENDAR>
        <OPERATIONAL_DATE>2018-10-18</OPERATIONAL_DATE>
        <MARKET>CRM</MARKET>
        <PUBLICATION>Statements</PUBLICATION>
        <RUN_TYPE>M4</RUN_TYPE>
        <PERIOD_TYPE>Week</PERIOD_TYPE>
        <PERIOD_END_DATE>2018-06-23T00:00:00+00:00</PERIOD_END_DATE>
        <MODIFIED>2018-02-05</MODIFIED>
      </CALENDAR>
```

Figure 131: REPT_067: Settlement Calendar - Sample

6.7.11.35 CAPACITY PAYMENTS BY MARKET

The Capacity Payments by Market Report will report aggregated market level Capacity Payment amounts per Imbalance Settlement Period.

I-SEM Report Reference:	*REPT_069*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CJ_GP_ALL_<SettlementDay>_<PublicationDay>_ <Market>_<RunType>_<Timestamp>*
Report Title:	Capacity Payments by Market
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Daily
Frequency:	Settlement Day
Report Format:	XML

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for Report (CJ) •

MARKET_NAME	VARCHAR2(6)	Market name (CRM)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT)

Table 149: Capacity Payments by Market Report Header Field Description

Field Name	Format	Description
CHARGE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource
CHARGE: NAME	VARCHAR2(16)	Name of the determinant
JURISDICTION: UNIT	VARCHAR2(8)	Unit of Measure identifier
JURISDICTION: NAME	VARCHAR2(3)	ROI (Republic of Ireland) or NI (Northern Ireland) The field is left blank if Jurisdiction is not applicable for determinant.
CHARGE:AMOUNT	NUMBER(28,8)	Amount of the determinant in the ISP

Table 150: Capacity Payments by Market Report Detail Field Description

```xml
<?xml version="1.0" encoding="UTF-8"?>
<REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <REPORT_HEADER run_type="INIT" publication_timestamp="2018-07-20T10:00:47+00:00" publication_date="2018-07-20"
    settlement_date="2018-07-15" market_name="CRM" report_type="CJ"/>
  <REPORT_DETAIL>
    <JURISDICTION unit="EUR" name="NI">
      <CHARGE name="CCP" amount="2670.51484509" datetime="2018-07-14T23:30:00+00:00"/>
      <CHARGE name="CCP" amount="2670.51484509" datetime="2018-07-15T00:00:00+00:00"/>
      <CHARGE name="CCP" amount="2670.51484509" datetime="2018-07-15T00:30:00+00:00"/>
      <CHARGE name="CCP" amount="2670.51484509" datetime="2018-07-15T01:00:00+00:00"/>
      <CHARGE name="CCP" amount="2670.51484509" datetime="2018-07-15T01:30:00+00:00"/>
```

Figure 132: REPT_069: Capacity Payments by Market Report - Sample

6.7.11.36 CAPACITY PAYMENTS BY UNIT

The Capacity Payments by Unit Report will report on a unit level Capacity Payment amounts per Imbalance Settlement Period

I-SEM Report Reference:	*REPT_070*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*CU_GP_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType> _<Timestamp>*
Report Title:	Capacity Payments by Unit
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Daily
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for Report (CU)
MARKET_NAME	VARCHAR2(6)	Market name (CRM)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT)

Table 151: Capacity Payments by Unit Report - Header Field Description

Field Name	Format	Description
RESOURCE NAME	VARCHAR2(32)	Name of the resource. Only populated if applicable.
CHARGE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource
CHARGE NAME	VARCHAR2(16)	Name of the determinant
CHARGE AMOUNT	NUMBER(28,8)	Amount of the determinant in the ISP

Table 152: Capacity Payments by Unit Report - Detail Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER run_type="INIT" publication_timestamp="2018-07-20T10:01:07+00:00" publication_date="2018-07-20"
      settlement_date="2018-07-15" market_name="CRM" report_type="CU"/>
    - <REPORT_DETAIL>
      - <RESOURCE name="CAU_400301">
          <CHARGE name="CCP" amount="399.29566200" datetime="2018-07-14T23:30:00+00:00"/>
          <CHARGE name="CCP" amount="399.29566200" datetime="2018-07-15T00:00:00+00:00"/>
          <CHARGE name="CCP" amount="399.29566200" datetime="2018-07-15T00:30:00+00:00"/>
          <CHARGE name="CCP" amount="399.29566200" datetime="2018-07-15T01:00:00+00:00"/>
          <CHARGE name="CCP" amount="399.29566200" datetime="2018-07-15T01:30:00+00:00"/>
          <CHARGE name="CCP" amount="399.29566200" datetime="2018-07-15T02:00:00+00:00"/>
```

Figure 133: Capacity Payments by Unit Report - Sample

6.7.11.37   MAKE WHOLE PAYMENT

I-SEM Report Reference:	*REPT_074*
Data Source	CSB Settlement System
Periodicity:	Weekly
File Names:	MW_GP_ALL_<SettlementDay>_<PublicationDay>_ <Market>_<RunType> _<Timestamp>
Report Title:	Make Whole Payment
Audience:	General Public
Resolution:	Imbalance Settlement Period
Time Span:	Daily
Frequency:	Settlement Day
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for Report (MW)
MARKET_NAME	VARCHAR2(6)	Market name (CRM)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Calendar day of settlement
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT)

Table 153: Make Whole Payments Report Header Field Description

Field Name	Format	Description
RESOURCE NAME	VARCHAR2(32)	Name of the resource. Only populated if applicable.
DETERMINANT: NAME	VARCHAR2(16)	Name of the determinant
JURISDICTION NAME	VARCHAR2(3)	ROI (Republic of Ireland) or NI (Northern Ireland) The field is left blank if Jurisdiction is not applicable for determinant.
DETERMINANT: UNIT	VARCHAR2(8)	Units for the determinant (e.g. MW)
VALUE: AMOUNT	NUMBER(28,8)	Amount of the determinant in the ISP
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP for this determinant and resource

Table 154: Make Whole Payments Report Detail Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER run_type="INIT" publication_timestamp="2018-07-20T10:10:38+00:00" publication_date="2018-07-20"
      settlement_date="2018-07-14" market_name="BALIMB" report_type="MW"/>
    - <REPORT_DETAIL>
      - <RESOURCE name="DSU_401610">
        - <DETERMINANT name="CFC" unit="EUR">
            <VALUE amount="0.00000000" datetime="2018-07-08T00:00:00+00:00"/>
          </DETERMINANT>
        - <DETERMINANT name="CNL" unit="EUR">
            <VALUE amount="0.00000000" datetime="2018-07-09T06:30:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-09T07:00:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-09T07:30:00+00:00"/>
            <VALUE amount="0.00000000" datetime="2018-07-09T08:00:00+00:00"/>
```

Figure 134: REPT_074: Make Whole Payments Report - Sample

6.7.11.38   CROSS BORDER MONTHLY CAPACITY DATA

The determinants of the report will give the Participants sufficient detail to split their Capacity Market VAT amounts in the appropriate categories. The content of the report is summarised as follows:
- Run Type (e.g. INIT, M4, M13)
- Total Capacity Sales (MPCSTOT)
- Total Capacity Purchases (MPCPTOT)
- For each Place of Establishment (e.g. NI, ROI, France):
  - Capacity Purchases for the Place of Establishment (MPCP)
  - Capacity Sales for the Place of Establishment (MPCS)
  - VAT Capacity sales proportion for the Place of Establishment (VATCS)
  - VAT Capacity purchases proportion for the Place of Establishment (VATCP)

I-SEM Report Reference:	*REPT_071*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*XM_GP_ALL_<PublicationDay>_<PublicationDay>_ <Market>_REPT _<Timestamp>*
Report Title:	Cross Border Capacity Data
Audience:	General Public
Resolution:	Billing Period
Time Span:	Month
Frequency:	Monthly
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (XM)
MARKET_NAME	VARCHAR2(6)	Market name (CRM)
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication

Table 155: Cross Border Monthly Capacity Report Header Field Description

Field Name	Format	Description
BILL_PERIOD: RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)
BILL_PERIOD:BP_START_DATE	DATE (YYYY-MM-DD)	Billing Period Start Date
BILL_PERIOD: BP_END_DATE	DATE (YYYY-MM-DD)MI)	Billing Period End Date
DETERMINANT: MPCPTOT	NUMBER(28,8)	Value of total Capacity Purchases
DETERMINANT: MPCSTOT	NUMBER(28,8)	Value of total Capacity Sales

Table 156: Cross Border Monthly Capacity Report Summary Field Description

Field Name	Format	Description
BILL_PERIOD: RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)
BILL_PERIOD:BP_START_DATE	DATE (YYYY-MM-DD)	Billing Period Start Date
BILL_PERIOD: BP_END_DATE	DATE (YYYY-MM-DD)MI)	Billing Period End Date
PLACE_OF_ESTABLISHMENT NAME	VARCHAR2(16)	Type of run (INDIC, INIT, M4, M13, AH)
DETERMINANT: NAME	VARCHAR2(16)	Name of Determinant (MPCS, MPCP, VATCS, VATCP)
DETERMINANT: AMOUNT	NUMBER(28,8)	Value of Determinant

Table 157: Cross Border Monthly Capacity Report Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER publication_timestamp="2018-07-06T17:32:37+00:00"
        publication_date="2018-07-06" market_name="CRM" report_type="XM"/>
  - <REPORT_SUMMARY>
    - <BILL_PERIOD bp_end_date="2018-06-30" bp_start_date="2018-06-01" run_type="INIT">
        <DETERMINANT MPCPTOT="-27589939.42000000" MPCSTOT="19420993.13000000"/>
      </BILL_PERIOD>
    </REPORT_SUMMARY>
  - <REPORT_DETAIL>
    - <BILL_PERIOD bp_end_date="2018-06-30" bp_start_date="2018-06-01" run_type="INIT">
      - <PLACE_OF_ESTABLISHMENT name="ROI">
          <DETERMINANT name="JCP" amount="-20185629.69000000"/>
          <DETERMINANT name="JCS" amount="16711127.68000000"/>
          <DETERMINANT name="VATCP" amount="0.73163008"/>
          <DETERMINANT name="VATCS" amount="0.86046721"/>
        </PLACE_OF_ESTABLISHMENT>
      - <PLACE_OF_ESTABLISHMENT name="NI">
          <DETERMINANT name="JCP" amount="-7404309.73000000"/>
          <DETERMINANT name="JCS" amount="2709865.45000000"/>
          <DETERMINANT name="VATCP" amount="0.26836992"/>
          <DETERMINANT name="VATCS" amount="0.13953279"/>
        </PLACE_OF_ESTABLISHMENT>
      </BILL_PERIOD>
    </REPORT_DETAIL>
  </REPORT>
```

Figure 135: REPT_071: Cross Border Monthly Capacity Data Report - Sample

6.7.11.39 CROSS BORDER WEEKLY ENERGY DATA

The determinants on the report will give Participants sufficient detail to split their Balancing Market VAT amounts in the appropriate categories.

The content of the report is summarised as follows:

- Run Type (e.g. INIT, M4, M13)
- Total Energy Sales (MPESTOT)
- Total Energy Purchases (MPEPTOT)
- For each Place of Establishment (e.g. NI, ROI, France):
  - Energy Purchases for the Place of Establishment (MPEP)
  - Energy Sales for the Place of Establishment (MPES)
  - VAT Energy sales proportion for the Place of Establishment (VATES)
  - VAT Energy purchases proportion for the Place of Establishment (VATEP)

I-SEM Report Reference:	*REPT_072*
Data Source	CSB Settlement System
Periodicity:	Daily
File Names:	*XW_GP_ALL_<PublicationDay>_<PublicationDay>_<Market>_REPT _<Timestamp>*
Report Title:	Cross Border Energy Data
Audience:	General Public
Resolution:	Billing Period
Time Span:	Billing Period
Frequency:	Billing Period
Report Format:	*XML*

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (XW)
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB)
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication

Table 158: Cross Border Energy Data Report Header Field Description

Field Name	Format	Description
BILL_PERIOD: RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH)

BILL_PERIOD:BP_START_DATE	DATE (YYYY-MM-DD)	Billing Period Start Date
BILL_PERIOD: BP_END_DATE	DATE (YYYY-MM-DD)MI)	Billing Period End Date
DETERMINANT: MPEPTOT	NUMBER(28,8)	Value of total Energy Purchases
DETERMINANT: MPESTOT	NUMBER(28,8)	Value of total Energy Sales

Table 159: Cross Border Energy Data Report Summary Field Description

Field Name	Format	Description
BILL_PERIOD: RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4, M13, AH))
BILL_PERIOD:BP_START_DATE	DATE (YYYY-MM-DD)	Billing Period Start Date
BILL_PERIOD: BP_END_DATE	DATE (YYYY-MM-DD)MI)	Billing Period End Date
PLACE_OF_ESTABLISHMENT NAME	VARCHAR2(16)	Type of run (INDIC, INIT, M4, M13, AH)
DETERMINANT: NAME	VARCHAR2(16)	Name of Determinant (MPES, MPEP, VATES, VATEP)
DETERMINANT: AMOUNT	NUMBER(28,8)	Value of Determinant

Table 160: Cross Border Energy Data Report Field Description

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER publication_timestamp="2018-07-20T08:47:42+00:00" publication_date="2018-07-20"
      market_name="BALIMB" report_type="XW"/>
  - <REPORT_SUMMARY>
    - <BILL_PERIOD bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
        <DETERMINANT MPEPTOT="-33111787.75000000" MPESTOT="33062609.78000000"/>
      </BILL_PERIOD>
    </REPORT_SUMMARY>
  - <REPORT_DETAIL>
    - <BILL_PERIOD bp_end_date="2018-07-14" bp_start_date="2018-07-08" run_type="INIT">
      - <PLACE_OF_ESTABLISHMENT name="Norway">
          <DETERMINANT name="JEP" amount="0.00000000"/>
          <DETERMINANT name="JES" amount="0.00000000"/>
          <DETERMINANT name="VATEP" amount="0.00000000"/>
          <DETERMINANT name="VATES" amount="0.00000000"/>
        </PLACE_OF_ESTABLISHMENT>
```
Figure 136: REPT_072: Cross Border Weekly Energy Data Report – Sample

6.7.11.40   METERED VOLUMES BY JURISDICTION

I-SEM Report Reference: REPT_066
Data Source   System
Periodicity   Daily
File Names: MJ_GP_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp>
Report Title: Metered Volumes By Jurisdiction
Audience: General Public
Resolution: Imbalance Settlement Period
Time Span: Settlement Day
Frequency: Daily - 1WD D-5WD (M+4 5WD), (M+13 5WD) and (Ad-hoc 5WD)
Report Format: XML

Field Name	Format	Description
REPORT_TYPE	VARCHAR2(2)	Identifier for report (MJ)
MARKET_NAME	VARCHAR2(6)	Market name (BALIMB)
PUBLICATION_DATE	DATE (YYYY-MM-DD)	Calendar day for publication
PUBLICATION_TIMESTAMP	TIME(YYYY-MM-DDTH24:MI)	Timestamp of publication
RUN_TYPE	VARCHAR2(5)	Type of run (INDIC, INIT, M4,M13,AH)
SETTLEMENT_DATE	DATE (YYYY-MM-DD)	Settlement Date

Table 161: Metered Volumes by Jurisdiction Report Header Field Description

Field Name	Format	Description
VALUE: DATETIME	TIME(YYYY-MM-DDTH24:MI)	Date and time of the ISP
VALUE: METERED_GENERATION	NUMBER(28,8)	Metered Generation
VALUE: METERED_DEMAND	NUMBER(28,8)	Metered Demand
JURISDICTION	VARCHAR2(3)	ROI (Republic of Ireland) or NI (Northern Ireland)
VALUE: UNIT	VARCHAR2(8)	Units of measure (e.g. MW)

Table 162: Metered Volumes by Jurisdiction Report

```xml
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
    <REPORT_HEADER run_type="INIT" publication_timestamp="2018-07-20T10:10:49+00:00"
        publication_date="2018-07-20" settlement_date="2018-07-15" market_name="BALIMB"
        report_type="MJ"/>
  - <REPORT_DETAIL>
    - <JURISDICTION name="ROI">
        <VALUE metered_generation="1432.54900000" metered_demand="0.00000000" unit="MWh"
            datetime="2018-07-14T23:30:00+00:00"/>
        <VALUE metered_generation="1394.29600000" metered_demand="0.00000000" unit="MWh"
            datetime="2018-07-15T00:00:00+00:00"/>
        <VALUE metered_generation="1348.52300000" metered_demand="0.00000000" unit="MWh"
            datetime="2018-07-15T00:30:00+00:00"/>
```

Figure 137: REPT_066: Metered Volumes by Jurisdiction Report – Sample

7   APPENDIX A: SPECIAL CHARACTERS

The following Special Characters are allowed for the free text fields in Registration and is referred in applicable data field validation rules:

- Space
- Tilde (~)
- Exclamation Mark (!)
- 'at' Symbol (@)
- Hash (#)
- Dollar ($)
- Percent (%)
- Caret (^)
- Ampersand (&)
- Asterisk (*)
- Left Parenthesis [( ]
- Right Parenthesis [ )]
- Underscore (_)
- Hyphen (-)
- Equal (=)
- Plus (+)
- Left Curly Bracket ({)
- Right Curly Bracket (})
- Left Square Bracket ([)
- Right Square Bracket (])
- Pipe (|)
- Back Slash (\)
- Colon (:)
- Semicolon (;)
- Double Quotation (")
- Apostrophe (')
- Less Than Sign (<)
- Greater Than Sign (>)
- Comma (,)
- Period (.)
- Question Mark (?)
- Forward Slash (/)

8 APPENDIX B: CHARGE CODE MAPPING TO SETTLEMENT REPORTS

The table below provides the mapping of charge codes to the reports in which they are contained. All charge codes are the same acronym as used by the Trading & Settlement Code.

Charge Code	Report ID
CABBPO	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106
CAOOPO	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106
CCA	REPT_043
CCBDUC	REPT_043
CCBDUE	REPT_043
CCC	REPT_043
CCP	REPT_043, REPT_059, REPT_060, REPT_110, REPT_111, REPT_112, REPT_069 (by jurisdiction), REPT_070 (by unit)
CCURL	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106,
CDIFFCDA	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106, REPT_059, REPT_060, REPT_110, REPT_111, REPT_112
CDIFFCNP	REPT_043, REPT_055, REPT_056, REPT_059, REPT_060, REPT_110, REPT_111, REPT_112
CDIFFCWD	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106, REPT_059, REPT_060, REPT_110, REPT_111, REPT_112
CDIFFPDA	REPT_043,
CDIFFPID	REPT_043
CDIFFPIMB	REPT_043,
CDISCOUNT	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106,
CFC	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106, REPT_074
CIMB	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106,
CIMP	REPT_043,
CINTEREST	REPT_043,
CMO	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106, REPT_074
CMOAU	REPT_043
CMOAV	REPT_043
CPREMIUM	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106,
CREIMDIFFP	REPT_043,
CREV	REPT_043,
CSHORTDIFFP	REPT_043
CSOCDIFFP	REPT_043,
CTEST	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106,
CUNIMB	REPT_043, REPT_055, REPT_056, REPT_104, REPT_105, REPT_106,
CVMO	REPT_043

Table 163: Charge Code Mapping to Settlement Reports

9 APPENDIX C: DETERMINANTS MAPPING TO SETTLEMENT REPORTS

The table below provides the mapping of determinants to the reports in which they are contained. All determinants are the same acronym as used by the Trading & Settlement Code.

Determinant	Report ID
CBSOC	REPT_044
CDIFFCNP1	REPT_044
CDIFFCNP2	REPT_044
CDIFFCNPA	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
CDIFFCNPB	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
CDIFFCTOT	REPT_059, REPT_060, REPT_1110, REPT_111, REPT_112
CDIFFCTWD	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
CDIFFPTOT	REPT_044
CDIFFPTOTD	REPT_044
CDIFFPTID	REPT_044
CNL	REPT_044, REPT_074
CNLR	REPT_044, REPT_074
COCMWP	REPT_044, REPT_074
CREVMWP	REPT_044, REPT_074
CSHORTDIFFPTRACK	REPT_044
CSLLA	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
CSLLB	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
CSU	REPT_044, REPT_074
CSUR	REPT_044, REPT_074
DS3_SSPF	REPT_044
Eff FX Rate	REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
FCCA	REPT_044
FCIMP	REPT_044
FDOG	REPT_044
FNDDS	REPT_044
FNIEP	REPT_044
FPUG	REPT_044
FQMCC	REPT_044
FSOCDIFFP	REPT_044
FSQC	REPT_044
FSS	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
JCP	REPT_071
JCS	REPT_071
JEP	REPT_072
JES	REPT_072
LF	REPT_044
MPCPTOT	REPT_071
MPCSTOT	REPT_071
MPEPTOT	REPT_072
MPESTOT	REPT_072
PBOA_QAB	REPT_044
PBOA_QAO	REPT_044
PCC	REPT_044
PCCSUP	REPT_044
PCP	REPT_044
PCURL	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
PIMB	REPT_044
PIMP	REPT_044
PMO	REPT_044
PREV	REPT_044
PSTR	REPT_044

Determinant	Report ID
PTDA	REPT_044
PTESTTARIFF	REPT_044
PTID	REPT_044
qAA	REPT_044
QAB	REPT_044
QABBIAS	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QABBPO	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QABCURL	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QABNF	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QABOPO	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QABTOTSO	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QABUNDEL	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QABUNDELOTOL	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QAO	REPT_044
QAOBIAS	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QAOOPO	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QAOTOTSO	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QAOUNDEL	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QAOUNDELOTOL	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QBIAS	REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
qC	REPT_044, REPT_061, REPT_062, REPT_113, REPT_114, REPT_115
qCMAMAXI	REPT_044
qCMAMAXILF	REPT_044
QCNET	REPT_044
QCOB	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QD	REPT_044
QDA	REPT_044
QDIFFCDA	REPT_044
QDIFFCNP	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QDIFFCSS	REPT_044
QDIFFCTWD	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QDIFFDA	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QDIFFPIMB	REPT_044
QDIFFPTID	REPT_044
QDIFFTRACK	REPT_044
QDIFFTRACKB	REPT_044
QDIFFTRACKDA	REPT_044
QDIFFTRACKID	REPT_044
QDIFFTRACKTID	REPT_044
QEX	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
qFAQ	REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
qLIMENG	REPT_065
QM	REPT_063, REPT_064 (GU, DSU, IU only - public) , REPT_116, REPT_117, REPT_118 REPT_044 (GU, DAU, IU, SU - private)

Determinant	Report ID
QMDIFFCDA	REPT_044
QMDIFFCWD	REPT_044
QTDA	REPT_044
QTID	REPT_044
QUNDEL	REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
QUNDELOTOL	REPT_044, REPT_057, REPT_058, REPT_107, REPT_108, REPT_109
TOLOG	REPT_044, REPT_065
TOLUG	REPT_044, REPT_065
VATCP	REPT_071
VATCS	REPT_071
VATEP	REPT_072
VATES	REPT_072

Table 164: Determinants Mapping to Settlement Reports

10 APPENDIX D: REPORT TYPES AND SUB-TYPES

The table below provides the report types and report sub-types for each report.

Note: Report sub type is not applicable for Settlement reports.

Report ID	Report Type	Report Sub-Type
REPT_023	INTERFACE	EMS
REPT_018	INTERFACE	EMS
REPT_025	INTERFACE	EMS
REPT_037	REGISTRATION	SNAP_SHOT
REPT_083	MARKET	PARTICIPANT_DATA
REPT_020	INTERFACE	EMS
REPT_027	INTERFACE	MISCELLANEOUS
REPT_028	INTERFACE	MISCELLANEOUS
REPT_075	INTERFACE	MISCELLANEOUS
REPT_042	MARKET	IMBALANCE_PRICE
REPT_021, REPT_086, REPT_087	INTERFACE	INTERCONNECTOR
REPT_088	MARKET	IMBALANCE_PRICE
REPT_011	MARKET	PARTICIPANT_DATA
REPT_053	MARKET	PARTICIPANT_DATA
REPT_013	MARKET	PARTICIPANT_DATA
REPT_012	MARKET	PARTICIPANT_DATA
REPT_078	INTERFACE	MISCELLANEOUS
REPT_079	INTERFACE	MISCELLANEOUS
REPT_080	INTERFACE	MISCELLANEOUS
REPT_052	MARKET	PARTICIPANT_DATA
REPT_089	MARKET	PARTICIPANT_DATA
REPT_077	MARKET	SCHEDULES
REPT_001b	MARKET	SCHEDULES
REPT_002b	MARKET	SCHEDULES
REPT_003a	MARKET	SCHEDULES
REPT_003b	MARKET	SCHEDULES
REPT_084/ REPT_085	MARKET	IMBALANCE_PRICE
REPT_008	MARKET	IMBALANCE_PRICE
REPT_009	MARKET	IMBALANCE_PRICE
REPT_050	MARKET	IMBALANCE_PRICE
REPT_041	MARKET	IMBALANCE_PRICE
REPT_026	INTERFACE	MISCELLANEOUS
REPT_010	MARKET	MISCELLANEOUS
REPT_006	MARKET	DISPATCH
REPT_007	MARKET	DISPATCH
REPT_014	INTERFACE	EMS
REPT_015	MARKET	SCHEDULES
REPT_016	IMARKET	PARTICIPANT_DATA
REPT_017	MARKET	METERING
REPT_029	INTERFACE	EMS
REPT_030	INTERFACE	INTERCONNECTOR
REPT_031	REGISTRATION	SNAP_SHOT
REPT_022	INTERFACE	INTERCONNECTOR
REPT_068	MARKET	SCHEDULES
REPT_082	MARKET	SCHEDULES
REPT_101	MARKET	SCHEDULES
REPT_102	MARKET	DISPATCH
REPT_103	INTERFACE	INTERCONNECTOR
REPT_081	MARKET	PARTICIPANT_DATA
REPT_035	REGISTRATION	SNAP_SHOT
REPT_036	REGISTRATION	SNAP_SHOT
REPT_043	STTL_STATEMENT	N/A
REPT_044	STTL_REPORT	N/A
REPT_045	STTL_DOCUMENT	N/A
REPT_046	ARA	N/A
REPT_048	COLLATERAL	N/A
REPT_055, REPT_056, REPT_104, REPT_105, REPT_106	BALIMB_FINANCIAL	N/A

Report ID	Report Type	Report Sub-Type
REPT_057, REPT_058, REPT_107, REPT_108, REPT_109	BALIMB_INFO	N/A
REPT_059, REPT_060, REPT_110, REPT_111, REPT_112	CRM_INFO	N/A
REPT_061, REPT_062, REPT_113, REPT_114, REPT_115	CRM_FINANCIAL	N/A
REPT_063, REPT_064, REPT_116, REPT_117, REPT_118	MTR_GEN_INFO	N/A
REPT_065	OVER_UNDER_GEN_PARAMS	N/A
REPT_067	STTL_CALENDAR	N/A
REPT_069	CRM_MARKET_PAYMENTS	N/A
REPT_070	CRM_UNIT_PAYMENTS	N/A
REPT_071	MAKE_WHOLE_PAYMENTS	N/A
REPT_072	CROSS_BORDER_MLY_CAP	N/A
REPT_074	CROSS_BORDER_WKLY_CAP	N/A
REPT_066	MTR_VOL_JURIS	N/A