

# I-SEM Technical Specification (ITS)

## **VOLUME C: BALANCING MARKET** **V1~~32.01~~**

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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).<br>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<br>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)<br>Minor updates to Section 5.7.2 Physical Notifications<br>Addition of the Dispatch Quantity Report   |
| 7.0     | 17 July 2017     | EirGrid and SONI | DSU PN Changes<br>Updates to SRA Validations   |
| 8.0     | 13 October 2017  | EirGrid and SONI | Change name from NEMO to SEMOpX where applicable<br>Update to User: Key Contacts and User: Authorisation validations and data types<br>Minor update to Generator VTOD validations<br>Minor update REPT_011 field formats<br>Make Whole Payment I-SEM Reference Report updated to REPT_074<br>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<br>Removed REPT_001a and REPT_002a<br>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.<br>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.<br>3. Added new subsection to 6.4 Report Query Validation for clarity on Type 3 (API) access for CSB reports from the MPI.<br>4. Updated REPT_043 description for CHARGE_SUMMARY: AMOUNT field to clarify the value is for all of the Market Participant’s units.<br>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<br>2. Clarification to summary description of Aggregated Physical Notifications report.<br>3. Clarification to REPT_012 and REPT_016 - the use of “GEN” as a permitted value, correcting use of “GU”<br>4. Updates to REPT_067 – Filename, RUN to RUN_TYPE, and updated sample XML image<br>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      | 1. Updated Report 50 to reflect ConstraintID field   |

**I-SEM Technical Specification (ITS)**  
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|-------------|----------------------|-------------------------|---|
|             |                      | SONI                    | (already there, just a spec change)<br><br>- Added table of plain-English description for Constraint IDs<br>- Associated change to XSD schema file) |
| <u>13.0</u> | <u>XX April 2019</u> | <u>EirGrid and SONI</u> | <u>1. Inclusion of Gate Closure Opening Report</u><br><u>2. Inclusion of CSB schema corrections per feedback from Participants</u><br><u>3. ???</u> |

**Distribution List**

| Name             |
|------------------|
| All participants |

**Source / Reference Documents**

| Document Name                         | Document Reference                    |
|---------------------------------------|---------------------------------------|
| I-SEM ITS R9. <u>24</u> Release Notes | I-SEM ITS R9. <u>20</u> 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<sup>1</sup> (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;

<sup>1</sup> 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:
  - User;
  - Party;
  - Participant;
  - Unit; and
  - 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:
  - Commercial Offer Data, including the use of Default Data and the submission of “Simple Commercial Offer Data” and “Complex Commercial Offer Data”;
  - Technical Offer Data, including submission of VTOD (Validation Technical Offer Data) sets and selection of VTOD sets;
  - Settlement Reallocation Agreements;
  - Forecast Availability; and
  - Physical Notifications.
- **Section 6** provides information relating to the content, publication timing and granularity of reports provided via the Balancing Market Trading Interface as:
  - Member Private (i.e. provided to a single Participant in respect of its registrations or trading activities); and
  - 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<sup>2</sup> 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

<sup>2</sup> 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<sup>3</sup>. 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-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.

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<sup>3</sup> Note: Type 3 interaction with the I-SEM Registration System will not be available for I-SEM Go-Live.

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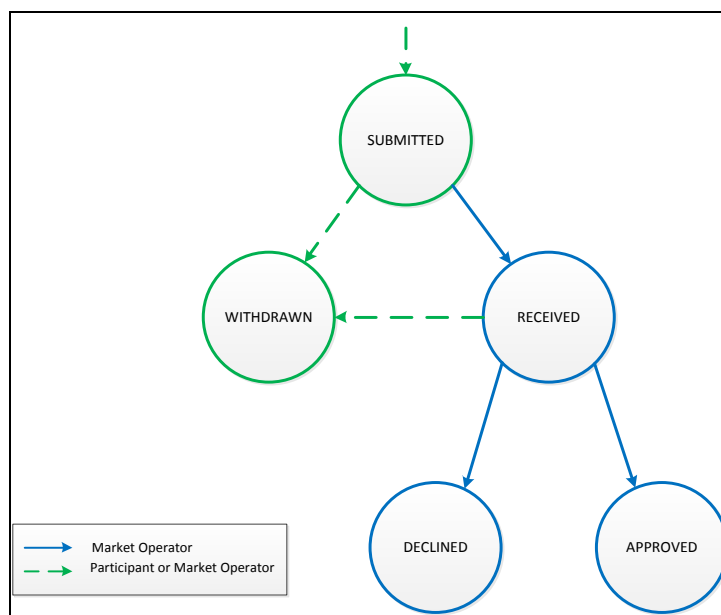
| Interface                 | Element Group | Element Sub-Group         | Type 2        | Type 3        |
|---------------------------|---------------|---------------------------|---------------|---------------|
| I-SEM Registration System | Participant   | General                   | Submit, Query |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

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**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.

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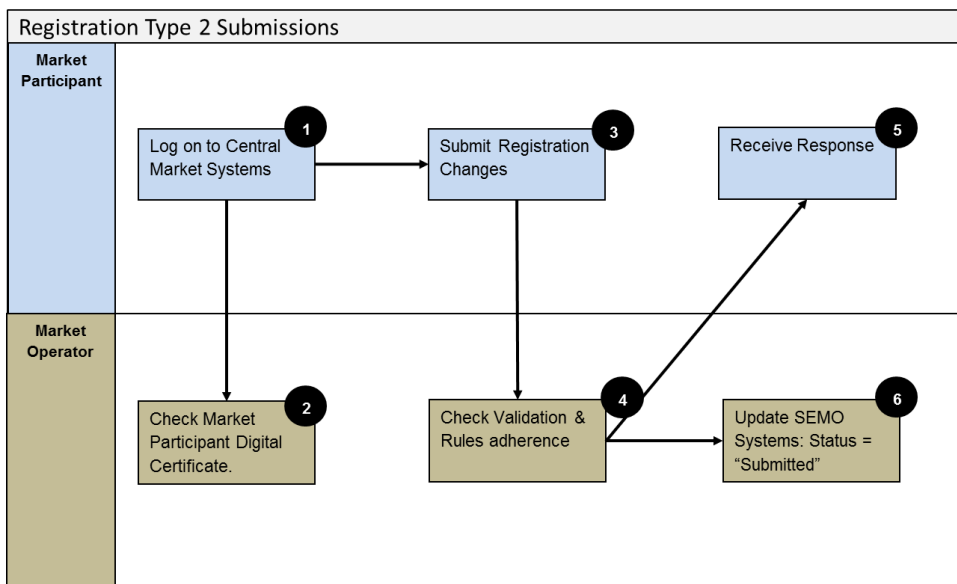


Figure 2: Registration Type 2 flow

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

**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

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.

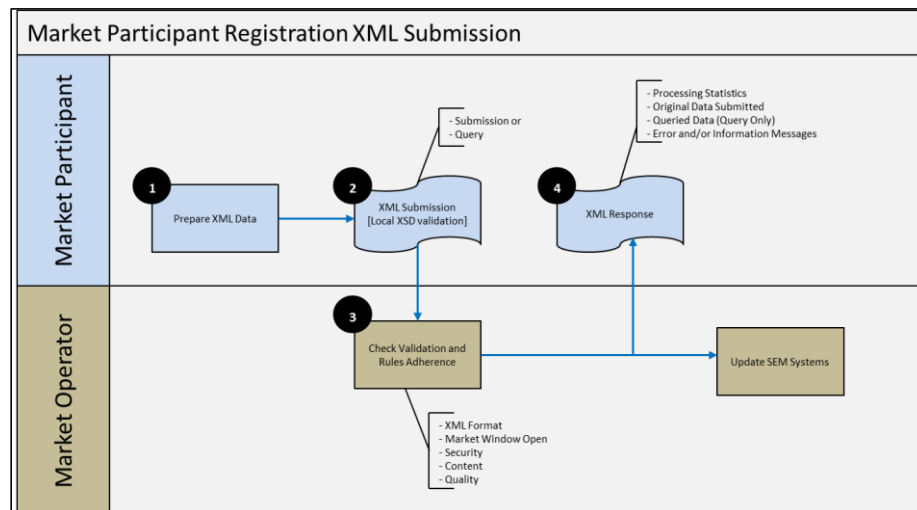


Figure 3: Registration Type 3 flow

**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

- 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).
- 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.

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## 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 <sup>4</sup> | Submit/Query Registration <sup>5</sup> | 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

<sup>4</sup> RU and OSU can view their own User information.

<sup>5</sup> OSU & RU can only view Party information. Only a PAU or an RU can amend Party information.

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;

- 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.

Formatted: Font: Italic

| 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<br>Must be valid in combination with USER_NAME<br>Must have system <del>privileges</del> 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<br>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.

**I-SEM Technical Specification (ITS)**  
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| Dataset name                        | Description  |
|-------------------------------------|--|
| Participant                         | Submit, approval and query of Participant general information                  |
| Participant Validity                | Submit, approval, and query of Participant Status                              |
| 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 of 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 |
|----------------------------|---------------|--|--------------------|
| <b>General Information</b> |               |  |                    |
| Participant Name           | VARCHAR2 (12) | String Type "[A-Z_0-9\~]*"><br>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 <sup>6</sup>   | Mandatory          |
| Place of Establishment     | VARCHAR2 (20) | String Type  | Mandatory          |
| VAT Region                 | VARCHAR2 (6)  | Valid values:<br>• EU<br>• NON_EU  | Mandatory          |
| VAT Registration Number    | VARCHAR2 (32) | String Type  | Mandatory          |

<sup>6</sup> 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.

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| Name                                       | Data Type      | Validation  | Mandatory/Optional |
|--|----------------|---|--------------------|
| EIC Code                                   | VARCHAR2 (16)  | String Type   | Optional           |
| ACER Code                                  | VARCHAR2 (12)  | String Type   | Optional           |
| Jurisdiction                               | VARCHAR2 (6)   | Valid values:<br>• NI<br>• ROI<br>• OTHER   | Mandatory          |
| Vat Status                                 | VARCHAR2 (6)   | Valid values:<br>• EXEMPT<br>• NON EXEMPT   | Optional           |
| Remit Reporting                            | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')<br>Default is false = 'F'   | Optional           |
| Open Cash Collateral Account               | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')<br>Default is false = 'F'   | Optional           |
| Cash Collateral Account Status             | VARCHAR2 (2)   | Valid values:<br>• COMPLETE (C)<br>• INCOMPLETE (I)<br>• NA<br>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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status                              | VARCHAR(15)    | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Company Address Information</b>         |                |   |                    |
| 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          |
| <b>Billing Address Information</b>         |                |   |                    |
| Billing Address is same as Company Address | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')<br>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          |
| <b>Comments</b>                            |                |   |                    |
| 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.

```
<?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: This is the name of the Party and is optional during initial submission. -->
    <!-- This element is mandatory -->
    - <Participant RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" Jurisdiction="ROI"
      AcerCode="ACER_1111" EicCode="EIC_1111" VatRegistrationNumber="99999" VatRegion="EU" PlaceOfEstablishment="ROI"
      CompanyName="Company Name" ParticipantClass="PARTY" EndDate="2016-12-31" StartDate="2016-01-01"
      ParticipantName="PY_NAME">
      <!-- StartDate, ParticipantClass, CompanyName, PlaceOfEstablishment, VatLocation, VatRegistrationNumber: Mandatory attributes.
      VatRegion: Mandatory attribute. Value should be either "EU" or "NON_EU". 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. ParticipantClass: Mandatory attribute. For participant submission the value should be "TRADING_PARTICIPANT".
      ParticipantName: This is the name of the Party or Participant depending on the ParticipantClass and is optional during initial submission.
      Jurisdiction: For participant it is mandatory field. For Party it is optional. Valid values are: NI, ROI, OTHER. EicCode, AcerCode: 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. RecordStatus: The default value of this attribute is "SUBMITTED" and need not be
      submitted. -->
      <!-- 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="COMPANY"/>
      <!-- AddressCategory: This attribute is mandatory and must be set to COMPANY. AddressLine1, City, County, PostalCode, Country:
      Mandatory attributes. CareOf, AddressLine2, AddressLine3: Optional attributes. -->
      <!-- 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. For Party submission it must be set to MAILING. For participant submission it must be
      set to BILLING. AddressCategory, AddressLine1, City, County, PostalCode, Country: Mandatory attributes. CareOf, AddressLine2,
      AddressLine3: Optional attributes. -->
      <!-- This element is optional. If this element is submitted, TradingParticipantInfo must not be submitted. -->
      <PartyInfo PaymentReference="Payment Reference" FeeSubmitted="true"/>
      <!-- FeeSubmitted: Mandatory attribute. Payment Reference: Optional attribute. -->
      <!-- TradingParticipantInfo element is optional. If this element is submitted, PartyInfo must not be submitted. -->
      <!-- <TradingParticipantInfo VatStatus="EXEMPT" RemitReporting="false" OpenCashCollateralAccount="false"
      CashCollateralAccountStatus="COMPLETE"/> -->
      <!-- Attributes of TradingParticipantInfo: VatStatus: Optional Attribute. RemitReporting, OpenCashCollateralAccount: The default values
      for these attributes is false and need not be submitted. CashCollateralAccountStatus: This attribute is entered by MO if
      OpenCashCollateralAccount is true. -->
      <Comments>Optional Comments, if any</Comments>
    </Participant>
  </RegistrationSubmit>
</RegistrationData>
```

Figure 4: Participant (Submit)

```
<?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.
    -->
    - <Participant ParticipantName="PT_NAME" TransactionId="99999" Action="APPROVED">
      <!-- All attributes are mandatory -->
      <!--
        Valid values for Action are:
        RECEIVED/WITHDRAWN/DENIED/APPROVED
      -->
      <Comments>Additional comments, if any.</Comments>
    </Participant>
  </RegistrationApproval>
</RegistrationData>
```

Figure 5: Participant (Approval)

```
<?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 -->
    <Participant ParticipantName="PT_NAME" />
    <!--
      ParticipantName:
      If specified, then all the records with specified Participant Name
      are retrieved.
    -->
  </RegistrationQuery>
</RegistrationData>
```

Figure 6: Participant (Query)

## 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 |
|----------------------------|----------------|---|--------------------|
| <b>General Information</b> |                |   |                    |
| 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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status              | VARCHAR(15)    | The default value is “SUBMITTED” and need not be submitted.   | N/A                |
| <b>Comments</b>            |                |   |                    |
| 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 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 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:<br><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 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 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 |
|----------------------------|----------------|---|--------------------|
| <b>General Information</b> |                |   |                    |
| 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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status              | VARCHAR(15)    | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Attachments</b>         |                |   |                    |
| PT CRM Additional document | Attachment     | If submitted then up to 5 attachments allowed for this type.  | Optional           |
| <b>Comments</b>            |                |   |                    |
| 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 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 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 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          |

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|   |                |   |           |
|---|----------------|---|-----------|
| 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')<br>Default is false = 'F'   | Mandatory |
| IDM Continuous Market                                     | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')<br>Default is false = 'F'   | Mandatory |
| Direct Clearing   | CHAR(1)        | Must be true or false. ('T' or 'F')<br>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:<br>• Y<br>• N<br>• 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:<br><unique_numeric_sequence_upto_18_digits> | N/A       |
| Record Status   | VARCHAR(15)    | The default value is "SUBMITTED" and need not be submitted.   | N/A       |
| <b>System Information (Can only be entered by the MO)</b> |                |   |           |
| 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  |
| <b>Attachments</b>  |                |   |           |
| 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  |
| <b>Comments</b>   |                |   |           |
| 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 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="trading_sys_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 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 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.

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| Name  | Data Type      | Validation  | Mandatory/Optional |
|---|----------------|---|--------------------|
| <b>General Information</b>                      |                |   |                    |
| 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')<br>Default is false = 'F'   | Optional           |
| Registration User                               | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')<br>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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status                                   | VARCHAR(15)    | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Authentication Information</b>               |                |   |                    |
| Authentication Code                             | VARCHAR2 (8)   | String "[a-zA-Z_0-9\-\-]*"/><br>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          |
| <b>Address Information</b>                      |                |   |                    |
| Care of   | VARCHAR2 (50)  | String Type   | Optional           |
| Address Line 1                                  | VARCHAR2 (128) | String Type   | Mandatory          |
| Address Line 2                                  | VARCHAR2 (128) | VARCHAR2 (128)<br>String Type   | Optional           |
| Address Line 3                                  | VARCHAR2 (128) | VARCHAR2 (128)<br>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          |
| <b>Comments</b>                                 |                |   |                    |
| 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 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="RO" 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 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 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

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

| Name                       | Data Type     | Validation   | Mandatory/Optional |
|----------------------------|---------------|--|--------------------|
| <b>General Information</b> |               |  |                    |
| 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: <ul style="list-style-type: none"> <li>CRM_TRADER</li> <li>BAL_TRADER</li> <li>BAL_CRM_SETTLEMENT</li> <li>BAL_CRM_OTHER</li> <li>NEMO_AUCTION_TRADER</li> <li>NEMO_CONTINUOUS_TRADER</li> </ul> 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<br>Must be: <ul style="list-style-type: none"> <li>READ</li> <li>WRITE</li> <li>NO_ACCESS</li> </ul>   | 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:<br><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 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 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<br>REGISTRATION<br>BALANCING_TRADING<br>CAPACITY_TRADING<br>SETTLEMENT<br>PAYMENTS<br>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<br>Standard<br>Notification | CHAR(1)       | If submitted, must be true or false. ('T'<br>or 'F')<br>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 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~~**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<br>DECLARE_LIMITED_COMMUNICATION_FAILURE<br>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 &amp; 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 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 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 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 |
|----------------------------|----------------|--|--------------------|
| <b>General Information</b> |                |  |                    |
| 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                |
| <b>Comments</b>            |                |  |                    |
| 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 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 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 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 |
|----------------------------|---------------|---|--------------------|
| <b>General Information</b> |               |   |                    |
| 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:<br><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 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 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 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 |
|----------------------------|---------------|---|--------------------|
| <b>General Information</b> |               |   |                    |
| Participant Name           | VARCHAR2 (12) | String Type "[A-Z_0-9\-\]*"/>   | Mandatory          |
| Resource Name              | VARCHAR2 (12) | String Type "[A-Z_0-9\-\]*"/><br>Does not need included on first submission, generated by the system.   | Mandatory          |
| Resource Type              | VARCHAR2 (3)  | Valid values:<br><ul style="list-style-type: none"> <li>• GENERATOR (GEN)</li> <li>• DEMAND_SIDE_UNIT (DSU)</li> <li>• ASSETLESS_TRADING_UNIT (AU)</li> <li>• TRADING_UNIT (TU)</li> <li>• EXTERNAL_UNIT (EU)</li> <li>• SUPPLIER_UNIT (SU)</li> <li>• INTERCONNECTOR (IU)</li> <li>• CAPACITY_AGGREGATION_UNIT (CAU)</li> <li>• INTERCONNECTOR_ERROR_UNIT (IEU)</li> <li>• INTERCONNECTOR_RESIDUAL_CAPACITY_UNIT (IRCU)</li> </ul> | Mandatory          |
| Start Date                 | Date          | Must be YYYY-MM-DD  | Mandatory          |
| End Date                   | Date          | If submitted, must be YYYY-MM-DD  | Optional           |
| Jurisdiction               | VARCHAR(32)   | Valid values:<br><ul style="list-style-type: none"> <li>• ROI</li> <li>• NI</li> </ul>  | Mandatory          |
| Associated Unit            | VARCHAR(32)   | Optional Field.<br>Must be a valid Resource Name under the same jurisdiction.   |                    |
| Assetless Unit Subtype     | CHAR(4)       | Optional Field.<br>If submitted, then it must be one of the following values;<br><ul style="list-style-type: none"> <li>• CCPS</li> <li>• CCPT</li> <li>• SA</li> </ul> This field is only applicable to Resource Type AU.  |                    |
| Acting as Intermediary     | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>This field can be checked only if the Resource Type is GEN or DSU.   | Optional           |
| EIC Code                   | VARCHAR2 (16) | String Type<br>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')<br><br>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)<br><br><i>Note: This field is entered by the Market Operator, only.</i>  | Optional           |

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| Name  | Data Type      | Validation  | Mandatory/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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status   | VARCHAR2(15)   | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Station Information - Applicable only for Resource Types GEN, DSU and IU</b>     |                |   |                    |
| 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           |
| <b>License Information - Applicable only for Resource Types GEN, DSU, AU and SU</b> |                |   |                    |
| Exemption from Licence  | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')<br>Default is False = 'F'   | Optional           |
| License ID  | VARCHAR2 (24)  | String Type<br>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           |
| <b>Attachments</b>  |                |   |                    |
| RES Collateral Data   | Attachment     | At least one attachment for this type is mandatory.<br>Up to 5 attachments allowed for this type.   | Mandatory          |
| <b>Comments</b>   |                |   |                    |
| 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 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 attributes. Jurisdiction: 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
      ExemptionFromLicense 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 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 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          |
| 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:<br><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 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 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 -->
  - <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 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. -->
    </ResourceValidity>
  </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          |

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| Name                  | Data Type     | Validation  | Mandatory/Optional |
|-----------------------|---------------|---|--------------------|
| Resource Name         | VARCHAR2 (12) | String Type "[A-Z_0-9\~]*"/>  | Mandatory          |
| Resource Type         | VARCHAR2 (3)  | Valid values:<br><ul style="list-style-type: none"> <li>• GENERATOR (GEN)</li> <li>• DEMAND_SIDE_UNIT (DSU)</li> <li>• ASSETLESS_TRADING_UNIT (AU)</li> <li>• TRADING_UNIT (TU)</li> <li>• EXTERNAL_UNIT (EU)</li> <li>• SUPPLIER_UNIT (SU)</li> <li>• INTERCONNECTOR (IU)<sup>7</sup></li> <li>• CAPACITY_AGGREGATION_UNIT (CAU)</li> <li>• INTERCONNECTOR_ERROR_UNIT (IEU)</li> <li>• INTERCONNECTOR_RESIDUAL_CAPACITY_UNIT (IRCU)</li> </ul> | 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:<br><ul style="list-style-type: none"> <li>• BATTERY_STORAGE</li> <li>• BIOMASS</li> <li>• COAL</li> <li>• COMBINED_HEAT_POWER</li> <li>• COMPRESSED_AIR_STORAGE</li> <li>• DISTILLATE</li> <li>• FLY_WHEEL</li> <li>• GAS</li> <li>• HYDRO</li> <li>• MULTI_FUEL</li> <li>• NUCLEAR</li> <li>• OIL</li> <li>• PEAT</li> <li>• PUMP_STORAGE</li> <li>• SOLAR</li> <li>• WIND</li> <li>• OTHER</li> </ul>                           | Optional           |
| Dispatchable          | CHAR(1)       | Must be true or false. ('T' or 'F')<br>Must be submitted for Resource Type GEN and DSU.   | Mandatory          |
| Priority Dispatch     | CHAR(1)       | Must be true or false. ('T' or 'F')<br>Must be submitted for Resource Type GEN and DSU.   | Mandatory          |
| Energy Limited        | CHAR(1)       | Must be true or false. ('T' or 'F')<br>Must be submitted for Resource Type GEN.   | Mandatory          |
| Supplier Unit Subtype | VARCHAR2 (4)  | Valid values:<br><ul style="list-style-type: none"> <li>• SU</li> <li>• TSSU</li> </ul> Applicable only for Resource Type SU.   | Optional           |
| Trading Site Name     | VARCHAR2 (12) | String Type "[A-Z_0-9\~]*"/><br>It must be a mandatory field for Resource Type GEN, DSU and TU.<br>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')<br>This field can be checked only if Resource Type is GEN and Dispatchable is checked.  | Optional           |
| AGU SO Agreement      | VARCHAR2 (2)  | String Type<br>If submitted, must be:<br><ul style="list-style-type: none"> <li>• Y</li> <li>• N</li> <li>• NA</li> </ul> If Aggregated Generator is unchecked then it must be NA.  | Optional           |
| Bidding Zone          | VARCHAR2 (4)  | Valid values:<br><ul style="list-style-type: none"> <li>• GBP</li> <li>• EURO</li> </ul>  | Mandatory          |

<sup>7</sup> Used to represent the Interconnector

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| Name  | Data Type     | Validation  | Mandatory/Optional |
|---|---------------|---|--------------------|
| Settlement Group Name   | VARCHAR2 (12) | String Type   | Mandatory          |
| Maximum Export Capacity   | NUMBER (5,3)  | Must be a NUMBER (min 0 - max 99999.999)<br>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')<br>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:<br><ul style="list-style-type: none"> <li>COMPLETED (C)</li> <li>IN_PROGRESS (IP)</li> <li>NA</li> </ul> If Exemption from TUoS Agreement (see below) is checked then it must be NA.<br>Mandatory for Resource Types GEN, DSU and SU.<br>Must be NA for others. | Optional           |
| Exemption from TUoS Agreement   | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>This field can be checked only if Resource Type is GEN, DSU or SU.   | Optional           |
| DUoS Agreement  | VARCHAR2 (2)  | Valid values:<br><ul style="list-style-type: none"> <li>Completed (C)</li> <li>NA</li> </ul> Mandatory for Resource Types DSU and SU. Must be NA for others.  | Optional           |
| Meter ID (MPRN)   | VARCHAR2 (72) | String Type<br>It must be mandatory for Resource Types GEN and IU.  | Optional           |
| DSU-SO Agreement  | VARCHAR2 (2)  | Valid values:<br><ul style="list-style-type: none"> <li>Y</li> <li>N</li> <li>NA</li> </ul> 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;<br><ul style="list-style-type: none"> <li>MDP_MRSO</li> <li>MDP_NIE</li> <li>MDP_EIRGRID</li> <li>MDP_SONI.</li> </ul> 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:<br><unique_numeric_sequence_ upto_18_digits>  | N/A                |
| Record Status   | VARCHAR2(15)  | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Connection Information - Applicable only for Resource Types GEN, DSU and IU.</b> |               |   |                    |
| Connection Type   | VARCHAR2 (12) | Valid values:<br><ul style="list-style-type: none"> <li>TRANSMISSION</li> <li>DISTRIBUTION</li> </ul>   | Mandatory          |
| Connection Agreement  | VARCHAR2 (12) | Valid values:<br><ul style="list-style-type: none"> <li>COMPLETED</li> <li>IN_PROGRESS</li> </ul>   | Mandatory          |
| Connection Agreement Reference  | VARCHAR2 (32) | String Type   | Optional           |
| <b>Participant Entered Information</b>  |               |   |                    |
| Controllable  | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>This field can be checked only if Resource Type is GEN, Dispatchable is unchecked and Priority Dispatch is checked.  | Optional           |
| Combined Cycle Unit   | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>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')<br>This field can be checked only if Resource Type is GEN and Dispatchable is checked and Priority Dispatch is unchecked.   | Optional           |

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| Name   | Data Type     | Validation  | Mandatory/Optional |
|--|---------------|---|--------------------|
| Synchronous  | VARCHAR2 (12) | Valid values: <ul style="list-style-type: none"> <li>• SYNCHRONOUS</li> <li>• ASYNCHRONOUS</li> </ul> It must be mandatory for Resource Types GEN.  | Optional           |
| Dual Rated Unit  | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>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: <ul style="list-style-type: none"> <li>• BATTERY_STORAGE</li> <li>• BIOMASS</li> <li>• COAL</li> <li>• COMBINED_HEAT_POWER</li> <li>• COMPRESSED_AIR_STORAGE</li> <li>• DISTILLATE</li> <li>• FLY_WHEEL</li> <li>• GAS</li> <li>• HYDRO</li> <li>• MULTI_FUEL</li> <li>• NUCLEAR</li> <li>• OIL</li> <li>• PEAT</li> <li>• PUMP_STORAGE</li> <li>• SOLAR</li> <li>• WIND</li> <li>• OTHER</li> </ul> Mandatory if Dual Rated Unit is checked.<br>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)<br>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)<br>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)<br>It must be 0 for Resource Types other than GEN.   | Mandatory          |
| Minimum Storage Capacity <sup>8</sup>                            | NUMBER (5,3)  | Must be a NUMBER (min 0 - max 99999.999)<br>Only Relevant to Pump Storage and Battery Storage Units.  | Mandatory          |
| Maximum Storage Capacity <sup>9</sup>                            | NUMBER (5,3)  | Must be a NUMBER (min 0 - max 99999.999)<br>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)<br>Must be mandatory for Resource Type GEN.  | Optional           |
| Unit Load Scalar   | NUMBER (5,4)  | If submitted, must be between 0 and 1.<br>4 decimal places.<br>Must be mandatory for Resource Type GEN.   | Optional           |
| Droop  | NUMBER (4,2)  | If submitted, must be a NUMBER (min 0 - max 99999.999)<br>Must be mandatory for Resource Type GEN.  | Optional           |
| Dispatchable Capacity  | NUMBER (5,3)  | If submitted, must be a NUMBER (min 0 - max 99999.999)<br>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)<br>Must be mandatory for Resource Type DSU.  | Optional           |
| <b>MO Entered Information (Not submitted by the Participant)</b> |               |   |                    |
| Meter Transmission Type  | VARCHAR(4)    | String Type<br>Values consistent with I-SEM_MI MMS MDP Functional Design Document<br>Mandatory for Resource Types GEN, SU and IU.   | Optional           |
| Autoproducer   | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>This field can be checked only if Resource Type is GEN, DSU, TU and SU.  | Optional           |
| Zero Marginal Cost <sup>10</sup>                                 | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>This field can be checked only if Resource Type is GEN and DSU.  | Optional           |

<sup>8</sup> Minimum Battery Storage Capacity submitted as Minimum Storage Capacity, for Battery Storage Units.

<sup>9</sup> Maximum Battery Storage Capacity submitted as Maximum Storage Capacity, for Battery Storage Units.

<sup>10</sup> 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.

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| Name  | Data Type      | Validation  | Mandatory/Optional |
|---|----------------|---|--------------------|
| Operational Certificate Issued                                    | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')<br>This field can be checked only if Resource Type is GEN and DSU.  | Optional           |
| Operational Certificate Effective Date                            | Date           | Date<br>If submitted, must be YYYY-MM-DD<br>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')<br>This field can be checked only by the Meter Data Provider and applicable only for Resource Type SU.                          | Optional           |
| <b>BMU Information (Not submitted by the Participant)</b>         |                |   |                    |
| Generation Name   | VARCHAR2 (12)  | String Type   | Optional           |
| Demand Name   | VARCHAR2 (12)  | String Type   | Optional           |
| <b>TSO Entered Information (Not submitted by the Participant)</b> |                |   |                    |
| EMS Code  | VARCHAR2 (32)  | VARCHAR2 (32)<br>String Type  | Optional           |
| EDIL Code   | VARCHAR2 (32)  | VARCHAR2 (32)<br>String Type  | Optional           |
| Dispatch System   | VARCHAR2 (12)  | VARCHAR2 (12)<br>String Type<br>If submitted, must be:<br><ul style="list-style-type: none"> <li>EMS</li> <li>EDIL</li> </ul>   | Optional           |
| Negative Ramping Reserve  | CHAR(1)        | If submitted, must be true or false. ('T' or 'F')   | Optional           |
| Priority Dispatch Category  | VARCHAR(2)     | VARCHAR(2)<br>If submitted, must be a valid number between 1 (inclusive) and 20 (inclusive)   | Optional           |
| Curtailment Priority  | VARCHAR(2)     | VARchar(2)<br>String Type<br>If submitted, must be:<br><ul style="list-style-type: none"> <li>1</li> <li>2a</li> <li>2b</li> <li>2c</li> <li>2d</li> <li>2e</li> <li>3</li> </ul> | Optional           |
| <b>Interconnector Information (Interconnector Units Only)</b>     |                |   |                    |
| 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          |
| <b>Comments</b>   |                |   |                    |
| Text Box  | VARCHAR2 (256) | String Type   | Optional           |

**Table 23: Resource Balancing - Data Elements & Validations**

**4.6.15.2 RESOURCE: BALANCING MARKET DATA – SAMPLE XML**

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The figures below are sample XMLs relating to the submission, approval and querying of Resource 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 & 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" DusoAgreement="COMPLETED" ExemptionFromTtuosAgreement="false"
      TtuosAgreement="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="AGREEMENT_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 only 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, 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 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 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: <ul style="list-style-type: none"> <li>GENERATOR (GEN)</li> <li>DEMAND_SIDE_UNIT (DSU)</li> <li>EXTERNAL_UNIT (EU)<sup>11</sup></li> <li>CAPACITY_AGGREGATION_UNIT (CAU)</li> </ul> | 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<br>Note: Must be SEM for all Units.   | Mandatory          |
| Aggregation Group Name           | VARCHAR2 (32) | String Type<br>This field must not be submitted for Resource Type CAU.  | Optional           |
| CRM Unit Type                    | VARCHAR2 (32) | String Type<br>Must be one of the valid CRM Unit.   | Mandatory          |
| De-Rating Factor <sup>12</sup>   | NUMBER(3,2)   | Must be a NUMBER between 0 and 100  | Mandatory          |
| Maximum Exit Price <sup>13</sup> | NUMBER (5,3)  | Must be a NUMBER (min -999999.99 - max 999999.99)   | Mandatory          |
| Bid Tolerance <sup>14</sup>      | 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')<br>This field can be checked only if the Resource Type is GEN or DSU.   | Optional           |

<sup>11</sup> 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.

<sup>12</sup> Not applicable for I-SEM Go Live.

<sup>13</sup> Not applicable for I-SEM Go Live.

<sup>14</sup> Not applicable for I-SEM Go Live.

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| 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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status  | VARCHAR(15)    | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Capacity Information</b>  |                |   |                    |
| 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          |
| <b>Meter Information - This must not be submitted for Resource Type CAU</b>          |                |   |                    |
| Meter ID   | VARCHAR2 (72)  | String Type   | Optional           |
| Location   | VARCHAR2 (32)  | String Type   | Optional           |
| <b>Implementation Information - This must not be submitted for Resource Type CAU</b> |                |   |                    |
| 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           |
| <b>Attachment - This must not be submitted for Resource Type CAU.</b>                |                |   |                    |
| RESCRM Implementation Plan   | Attachment     | At least one attachment for this type is mandatory.<br>Up to 5 attachments allowed for this type.   | Mandatory          |
| <b>Comments</b>  |                |   |                    |
| 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.

```

<?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, EU & CAU -->
    - <ResourceCrm RecordStatus="SUBMITTED" TransactionId="99999" ApplicationReference="ISEM99999" ApprovalToConstruct="true"
      BidTolerance="99999.999" MaximumExitPrice="999999.99" DeRatingFactor="100" CrmUnitType="TDB"
      AggregationGroupName="CAP_AGGR_GRP" PricingZone="EURO" EndDate="2016-08-17" StartDate="2016-08-13"
      ResourceType="INTERCONNECTOR" ResourceName="RES_NAME" ParticipantName="PT_NAME">
      <!-- ParticipantName, ResourceName, ResourceType, StartDate, PricingZone, CRMUnitType: 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. DeRatingFactor, MaximumExitPrice, BidTolerance: Mandatory
      attributes. AggregationGroupName: Optional attribute and must not be submitted for CAU. ApprovalToConstruct: Optional attribute,
      the value can be "true" only if the resource type is GEN, DSU or EU; otherwise "false". 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. -->
      <!-- Mandatory element and all the attributes are required -->
      <UnitCapacityInfo DeliveryEndDate="2016-08-18" DeliveryStartDate="2016-08-13" UnitCapacity="99999.999"/>
      <!-- UnitCapacity: Mandatory attribute. DeliveryStartDate, DeliveryEndDate: Mandatory attribute. -->
      <!-- Optional element and all the attributes are optional -->
      <!-- Not Applicable for CAU -->
      <MeterInfo Location="LOCATION" MeterId="METER_ID"/>
      <!-- Optional element and all the attributes are optional -->
      <!-- Not Applicable for CAU -->
      <ImplementationDate KeyDate5="2016-08-17" KeyDate4="2016-08-16" KeyDate3="2016-08-15" KeyDate2="2016-08-14"
      KeyDate1="2016-08-13"/>
      <Comments>Optional Comments.</Comments>
    </ResourceCrm>
  </RegistrationSubmit>
</RegistrationData>

```

**Figure 45: Resource: Capacity Market (Submit)**

```
<?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 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 |
|-----------------------------|---------------|---|--------------------|
| <b>General Information</b>  |               |   |                    |
| 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: <ul style="list-style-type: none"> <li>• GENERATOR (GEN)</li> <li>• DEMAND_SIDE_UNIT (DSU)</li> <li>• ASSETLESS_TRADING_UNIT (AU)</li> <li>• TRADING_UNIT (TU)</li> <li>• SUPPLIER UNIT (SU)</li> </ul> | 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: <ul style="list-style-type: none"> <li>• GBP</li> <li>• EURO</li> </ul>   | Mandatory          |
| REMIT Reporting             | CHAR(1)       | If submitted, must be true or false. ('T' or 'F')<br>Default is False = 'F'   | Optional           |

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| 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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status         | VARCHAR(15)    | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Comments</b>       |                |   |                    |
| 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 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 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 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 |
|----------------------------|----------------|---|--------------------|
| <b>General Information</b> |                |   |                    |
| 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:<br>• GENERATOR (GEN)<br>• 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:<br>• DISPATCHABLE_ONLY<br>• WIND_FORECAST<br>• SOLAR_FORECAST<br>• 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:<br>• GBP<br>• EURO  | Mandatory          |
| AoLR NEMO User Name        | VARCHAR2 (16)  | String Type<br>Can be entered only by the Market Operator   | Mandatory          |
| AoLR NEMO Passcode         | VARCHAR2 (12)  | String Type<br>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:<br><unique_numeric_sequence_upto_18_digits> | N/A                |
| Record Status              | VARCHAR(15)    | The default value is "SUBMITTED" and need not be submitted.   | N/A                |
| <b>Attachments</b>         |                |   |                    |
| RESAOLR Agreement Form     | Attachment     | Up to 5 attachments allowed for this type.  | Optional           |
| <b>Comments</b>            |                |   |                    |
| 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 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 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 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<br>fuel_use<br>pump_storage_detail<br>energy_limit_detail<br>cod_detail – “complex”<br>cod_detail – “simple” | Forecast Availability<br>Fuel Usage indicators<br>Pumped Storage Unit parameters<br>Energy Limited Unit parameters<br>Complex Commercial Offer Data<br>Simple Commercial Offer Data |
| Commercial Offer Data (Demand Side Units) | forecast<br>cod_detail – “complex”<br>cod_detail – “simple”   | Forecast Availability<br>Complex Commercial Offer Data<br>Simple Commercial Offer Data  |
| Technical Offer Data                      | sem_gen_technical_offer<br>sem_dem_technical_offer  | Technical Offer Data for Generators<br>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.

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| 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   |   | H           | Mandatory   | Mandatory  |
|                             | There are different validation rules based on the message type, which are detailed in each individual message section below. |   |             |   |  |
| 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  |   |             |   |  |
| participant_name, user_name | There are different validation rules based on the message type, which are detailed in each individual message section below. | Invalid combination of participant_name {0} and user_name {1} for trading_date {2}.<br><br>The user_name {0} for participant_name {1} does not have system access privileges to participate in Market Trading for trading_date {2}. |             | Mandatory   | Mandatory  |
|                             | Must be STRING.  |   | H           |   |  |
|                             | Must be valid in combination with user_name.   |   | H           |   |  |
| user_name                   | 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           | Mandatory   | Mandatory  |
|                             | Must be STRING   |   | H           |   |  |
|                             | Must be valid in combination with participant_name.  |   | 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.

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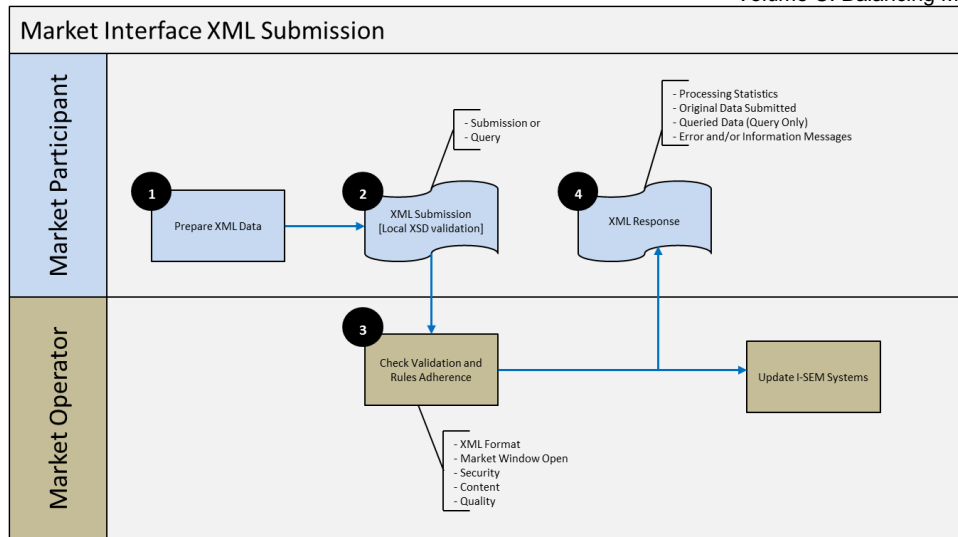


Figure 54: Balancing Market Trading Interface, processing overview

- **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 [5.3.25.3.2](#) 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

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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 <sup>15</sup>                 | 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.

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| Transaction            | Gate Window Initial Submission Requirements <sup>16</sup>  | Subsequent Submission Gate Window Timings (TW1 – TW48)   |
|------------------------|--|--|
| Physical Notifications | <ul style="list-style-type: none"> <li>Opens: TD-19, 12:00</li> <li>Closes: TD-1, 13:30</li> </ul>   | <ul style="list-style-type: none"> <li>Closes: 1h prior to start of Imbalance Settlement Period</li> </ul> |
| Simple COD             | <ul style="list-style-type: none"> <li>Opens: TD-19, 12:00</li> <li>Closes: TD-1, 13:30</li> </ul>   | <ul style="list-style-type: none"> <li>Closes: 1h prior to start of Imbalance Settlement Period</li> </ul> |
| Complex COD            | <ul style="list-style-type: none"> <li>Opens: TD-19, 12:00</li> <li>Closes: TD-1, 13:30</li> </ul>   | <ul style="list-style-type: none"> <li>Closes: 1h prior to start of Imbalance Settlement Period</li> </ul> |
| Forecast Availability  | <ul style="list-style-type: none"> <li>Opens: TD-19, 12:00</li> <li>Closes: TD-1, 13:30</li> </ul>   | <ul style="list-style-type: none"> <li>Closes: 1h prior to start of Imbalance Settlement Period</li> </ul> |
| VTOD set selection     | <ul style="list-style-type: none"> <li>Opens: TD-19, 12:00</li> <li>Closes: TD-1, 13:30 (if no selection is submitted, set 1 is used)</li> </ul> | <ul style="list-style-type: none"> <li>Not relevant</li> </ul>   |
| VTOD Submission        | <ul style="list-style-type: none"> <li>No Gate Open or Close</li> <li>11 Working Day business process for VTOD validation</li> </ul>             | <ul style="list-style-type: none"> <li>Not relevant</li> </ul>   |

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.

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#### 5.3.4.1 STANDING (DEFAULT) DATA

<sup>15</sup> All times in this table are in “Local Time”

<sup>16</sup> All times in this table are in “Local Time”

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 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:
  - Up to 10 Incremental price/quantity pairs; and
  - Up to 10 Decremental price/quantity pairs.
- “Complex” Commercial Offer Data, which is comprised of:
  - Up to 10 Incremental price/quantity pairs;
  - Up to 10 Decremental price/quantity pairs;
  - Up to three start-up costs (hot, warm, cold) for Generators or one shut-down cost for Demand Side Units; and
  - No Load Cost for Generator Units.
- Forecast Availability, Minimum Stable Generation and Minimum Output profiles; and
- Specific parameters for Pumped 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 of 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 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 <sup>17</sup>    | 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 | No record in cm_market table<br>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 | H           | Mandatory      | Not Applicable |

<sup>17</sup> This is the PT\_XXXX identifier as is used in the current SEM.

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| Name   | Validation  | Validation Message   | Hard / Soft | Submission     | Query          |
|--|---|--|-------------|----------------|----------------|
|  | trade_date must be greater than or equal to 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 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       |
| 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.<br><br>If a standing bid is in place with DAY_TYPE=ALL, then no other DAY_TYPE bids can be submitted.<br><br>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")<br>The following Generator Units need to provide Forecast Availability, Forecast Minimum Stable Generation and Forecast Minimum Output:<br><ul style="list-style-type: none"> <li>• Dispatchable Generator Units;</li> <li>• Dual Rated Generator Units;</li> <li>• Pumped Storage Units;</li> <li>• Dispatchable Priority Dispatch;</li> <li>• Energy Limited Units; and</li> <li>• Zero Cost Dispatchable Units</li> </ul> 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.<br>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 |

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| Name   | Validation  | Validation Message   | Hard / Soft | Submission | Query          |
|--|---|--|-------------|------------|----------------|
| 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 |
| 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:<br>i. end of the trading_date in the header; and<br>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 |
|  | 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_output_mw  | Standing flag is true with day type: ALL.<br>Must be = 0 if not pump storage unit.<br>Must be <=0 if pumped 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.<br>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.<br>Must be <=0 if pumped 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.<br>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 |
|  | 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           |            |                |

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## Volume C: Balancing Market

| Name  | Validation  | Validation Message   | Hard / Soft | Submission | Query          |
|---|---|--|-------------|------------|----------------|
| spin_generation_cost  | Cost of moving from Spinning to Generating.<br>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.<br>Must be present when PUMP_STORAGE_FLG value is set to "Y"   |  | H           | Optional   | Not Applicable |
| <b>Energy Limit Parameters (mandatory if Energy Limited)<sup>18</sup>. This is a part of cod_complex_detail element</b>   |   |  |             |            |                |
| limit_mwh   | Must be between 999999.99 and -999999.99.   |  |             | Mandatory  | Not Applicable |
| <p>COD detail (optional), with type parameter "SIMPLE or "COMPLEX"</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul> <p>'simple' and 'complex' elements may be submitted in the same transaction.</p> <p>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</p> <p>inc_curve_detail element - Can contain up to 10 price/quantity pairs. This element will be required for Dispatchable Generator Units.</p> |   |  |             |            |                |
| quantity  | <ul style="list-style-type: none"> <li>Must be monotonically non-decreasing</li> </ul>  | The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}. | H           | Mandatory  | Not applicable |
| price   | <ul style="list-style-type: none"> <li>Inc price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply)</li> <li>Inc prices can be negative or positive (inc zero)</li> <li>Prices from Price(0) to Price(9) must be monotonically non-decreasing</li> <li>Prices may not exceed Price Cap.</li> <li>Prices may not fall below Price Floor.</li> </ul>  | <i>Message detail to be included later in the implementation phase</i>                         | H           | Mandatory  | Not applicable |
| <b>dec_curve_detail element - Can contain up to 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.</b>   |   |  |             |            |                |
| quantity  | <ul style="list-style-type: none"> <li>Must be monotonically non-decreasing</li> </ul>  | The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}. | H           | Mandatory  | Not applicable |
| price   | <ul style="list-style-type: none"> <li>Dec price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply)</li> <li>Dec prices can be negative or positive (inc zero)</li> <li>Dec prices cannot exceed Incremental prices for overlapping Quantity bands, they may be equal or less</li> <li>Prices must be monotonically non-decreasing</li> <li>Prices may not exceed Price Cap.</li> <li>Prices may not fall below Price Floor.</li> </ul> | <i>Message detail to be included later in the implementation phase</i>                         | H           | Mandatory  | Not applicable |
| <b>startup_cost element, must be submitted if type parameter for cod_detail is "COMPLEX"</b>  |   |  |             |            |                |
| startup_cost_hot,   | Start-up costs for cold, warm or hot states.  |  |             |            |                |

<sup>18</sup> As in the current 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.

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## Volume C: Balancing Market

| Name                                    | Validation   | Validation Message  | Hard / Soft | Submission | Query          |
|---|--|---|-------------|------------|----------------|
| startup_cost_warm,<br>startup_cost_cold | Must be supplied for Dispatchable Generator Units excluding Zero Cost Dispatchable Units.<br>Must not be supplied for non Dispatchable Units   | <i>Message detail to be included later in the implementation phase</i>                            | 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 pumped storage unit.   | The hot startup_cost value of {0} {1} must be equal to 0 when the unit is pumped storage          | H           |            |                |
| 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 pumped storage unit.   | The warm startup_cost value of {0} {1} must be equal to 0 when the unit is pumped storage         | H<br>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 pumped storage unit.   | The cold startup_cost value of {0} {1} must be equal to 0 when the unit is pumped storage         | H           |            |                |
| no_load_cost                            | Must only be submitted if type parameter for cod_detail is "COMPLEX".<br>Must be supplied for:<br><ul style="list-style-type: none"> <li>Dispatchable Generator Unit, Dual Rated Generator Unit, Pumped Storage Unit, Dispatchable and Energy Limited Units</li> </ul> Must not be supplied for:<br><ul style="list-style-type: none"> <li>Zero Dispatchable and Non-Dispatchable Units</li> </ul> |   | 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 pumped storage unit.  | The no_load_cost value of {0} {1} must be equal to 0 when the unit is pumped storage              |             |            |                |

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

      <!-- standing_flag attribute set to true for Standing submission -->
      <!-- If standing_flag attribute 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"/>
    </sem_gen_offer>
  </market_submit>
</bids_offers>
```

```

<!-- 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 to 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 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

## 5.5.6 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 <sup>19</sup>       | 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      |
|                                      | 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   | No record in cm_market table   | H           | Mandatory      | Not            |

<sup>19</sup> This is the PT\_xxxxx identifier as is used in the current SEM.

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| Name   | Validation  | Validation Message   | Hard / Soft | Submission     | Query          |
|--|---|--|-------------|----------------|----------------|
|  | and day type is ALL:<br>For an existing standing bid, the valid trade_date must be equal to the max (market_date with current state as "OPEN") + 1 day.<br>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. | 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<br>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 |             |                | Applicable     |
| 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<br>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<br>Must be in the future.  | The expiry_date {0} must be in the future  |             | Optional       | Not Applicable |
|  | 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.<br>If a standing bid in place and DAY_TYPE=ALL, then no other DAY_TYPE bids can be submitted.<br>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.<br>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       |
| 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       |

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| Name  | Validation   | Validation Message   | Hard / Soft | Submission | Query          |
|---|--|--|-------------|------------|----------------|
| End_time of the forecast element  |  | Message detail to be included later in the implementation phase                                | H           | Optional   | Optional       |
|   | i. end of the trading_date in the header; or<br>ii. end of the trading_date for which the DAM has closed   |  |             |            |                |
| 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.<br>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.<br>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           |            |                |
| <p>COD detail (optional), with type parameter "SIMPLE or "COMPLEX"</p> <p>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.</p> <p>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.</p> <p>'Simple' and 'complex' elements may be included in the same submission.</p> <p>Simple' Data - If Incs are not submitted for a particular Trading Day, the system will use the corresponding Incs from their 'Complex' offers</p> <p>inc_curve_detail element - Can contain up to 10 price/quantity pairs. This element will be required for Demand Side Units.</p> |  |  |             |            |                |
| quantity  | <ul style="list-style-type: none"> <li>Must be monotonically non-decreasing</li> </ul>   | The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}. | H           | Mandatory  | Not applicable |

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| Name  | Validation  | Validation Message   | Hard / Soft | Submission | Query          |
|---|---|--|-------------|------------|----------------|
| price   | <ul style="list-style-type: none"> <li>Inc price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply)</li> <li>Inc prices can be negative or positive (inc zero)</li> <li>Prices from Price(0) to Price(9) must be monotonically non-decreasing</li> <li>Prices may not exceed Price Cap.</li> <li>Prices may not fall below Price Floor.</li> </ul>  | <i>Message detail to be included later in the implementation phase</i>                         | H           | Mandatory  | Not applicable |
| dec_curve_detail element - Can contain up to 10 price/quantity pairs. This element will be required for Demand Side Units |   |  |             |            |                |
| quantity  | <ul style="list-style-type: none"> <li>Must be monotonically non-decreasing</li> </ul>  | The MW Quantities in the PQ Curve are not monotonically increasing between points {0} and {1}. | H           | Mandatory  | Not applicable |
| price   | <ul style="list-style-type: none"> <li>Dec price is in £/MWh or €/MWh, to 2dp (noting that currency conversion may apply)</li> <li>Dec prices can be negative or positive (inc zero)</li> <li>Dec prices cannot exceed Incremental prices for overlapping Quantity bands, they may be equal or less</li> <li>Prices must be monotonically non-decreasing</li> <li>Prices may not exceed Price Cap.</li> <li>Prices may not fall below Price Floor.</li> </ul> | <i>Message detail to be included later in the implementation phase</i>                         | H           | Mandatory  | Not Applicable |
| shutdown_cost   | Must only be submitted if type parameter for cod_detail is "COMPLEX". Must be >=0.  | <i>Message detail to be included later in the implementation phase</i>                         | 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 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 attribute 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 to 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 57: Sample XML - Demand Offer Submission

```
<?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 58: 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"  | 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 |
| 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.  |  |             |                                     |                |

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| Name  | Validation  | Validation Message | Hard / Soft | Submission | Query          |
|---|---|--------------------|-------------|------------|----------------|
| 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 <sup>20</sup>                       | 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 |
| 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 MinGen to the next quantity. |                    |             |            |                |
| rate  | MW/min. Value must be between 0 and 99999.999   |                    |             | Optional   | Not Applicable |

<sup>20</sup> Pump Storage Cycle Efficiency also used to capture Battery Storage Cycle Efficiency and Battery Storage Capacity for Battery Storage Units.

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| Name                                     | Validation   | Validation Message | Hard / Soft | Submission | Query          |
|--|--|--------------------|-------------|------------|----------------|
| quantity                                 | MW Value. Must be a NUMBER between 0 and 99999.999, up to which the associated ramp rate applies.  |                    |             | Optional   | Not Applicable |
| <b>restricted_region element</b>         |  |                    |             |            |                |
|  | 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 |
| <b>soak_time element</b>                 |  |                    |             |            |                |
|  | 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 |
| <b>short_term_maximization element</b>   |  |                    |             |            |                |
|  | 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 |
| <b>minimum_stable_generation element</b> |  |                    |             |            |                |
| quantity                                 | MW Value. Must be a NUMBER between 0 and 99999.999.  |                    |             | Optional   | 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 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 DOWWN -->
        <dwel_time type="UP">
          <point time="0" quantity="0.0"/>
          <point time="0" quantity="0.0"/>
          <point time="0" quantity="0.0"/>
        </dwel_time>

      </sem_gen_technical_offer>

    </market_submit>

  </bids_offers>
```

```
<!-- 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 DOWN -->
<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>
```

```

<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 59: Sample XML: Generator VTOD submission

```

<?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 60: Sample XML - Generator VTOD query

### 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 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 61: Sample XML - VTOD submission

```
<?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 62: 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.

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##### 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 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 63: Sample XML - VTOD set selection submission

```
<?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 64: 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](http://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 |
|------|------------|--------------------|-----------|------------|-------|
|------|------------|--------------------|-----------|------------|-------|

# I-SEM Technical Specification (ITS)

## Volume C: Balancing Market

| Name                            | Validation  | Validation Message   | Hard/Soft | Submission | Query          |
|---------------------------------|---|--|-----------|------------|----------------|
| <b>sem_pn_submit Element</b>    |   |  |           |            |                |
| curve_type                      | Must be 'A01' or 'A04'  | <i>Message detail to be included later in the implementation phase</i> | H         | Mandatory  | Not Applicable |
|                                 | If 'A01' format, must be one of:<br>a) AOLR Unit<br>b) Supplier Unit<br>c) Generator Unit with registered capacity < 10MW<br>d) Demand Side Unit with dispatchable capacity of < 10MW<br>e) Generator Unit that is not Dispatchable<br><br>Otherwise, curve type 'A04' must be used. Units providing A01 cannot submit A04 and vice versa.  | <i>Message detail to be included later in the implementation phase</i> | 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)  | <i>Message detail to be included later in the implementation phase</i> | H         |            |                |
|                                 | Must be contiguous curve for submitted period   | <i>Message detail to be included later in the implementation phase</i> | H         |            |                |
|                                 |   |  |           |            |                |
|                                 | start_time < end_time   | <i>Message detail to be included later in the implementation phase</i> | H         |            |                |
|                                 | start_time must be at the start of a minute   | <i>Message detail to be included later in the implementation phase</i> | H         |            |                |
| from_mw                         | Must be >=0 for all Generators apart from Pumped 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 Units). For DSU From_mw cannot be less than zero and cannot be greater than Dispatchable Capacity. | <i>Message detail to be included later in the implementation phase</i> | H         | Mandatory  | Not applicable |

# I-SEM Technical Specification (ITS)

## Volume C: Balancing Market

| 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: <ul style="list-style-type: none"> <li>end of the trading_date in the header; and</li> <li>end of the trading_date for which the DAM has recently closed</li> </ul>  | 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'end   | 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 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         |            |                |

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### Volume C: Balancing Market

| 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 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 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_flg="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 65: 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 66: 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<sup>21</sup>.

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

<sup>21</sup> Legal paperwork must be submitted to the Market operator to be approved before the SRAs can become effective.

### 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.

*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 <sup>22</sup> | 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  | Invalid end date {0} for   | H           | Mandatory  | Optional  |

<sup>22</sup> This field is used to validate the submitted SRA and does not need to be included in the submission.

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| Name           | Validation   | Validation Message               | Hard / Soft | Submission | Query    |
|----------------|--|----------------------------------|-------------|------------|----------|
|                | 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.   | the SRA                          |             |            |          |
| 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, secondary_participant_name, start_date and end_date must exist | Invalid SRA cancellation request | H           | Optional   | Optional |

Table 44: Trading (PNs), methods

## 5.8.6 SETTLEMENT REALLOCATION AGREEMENT - SAMPLE 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 67: SRA - (Submit)

```
<?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>
```

Figure 68: SRA - (Query)

## 6 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:

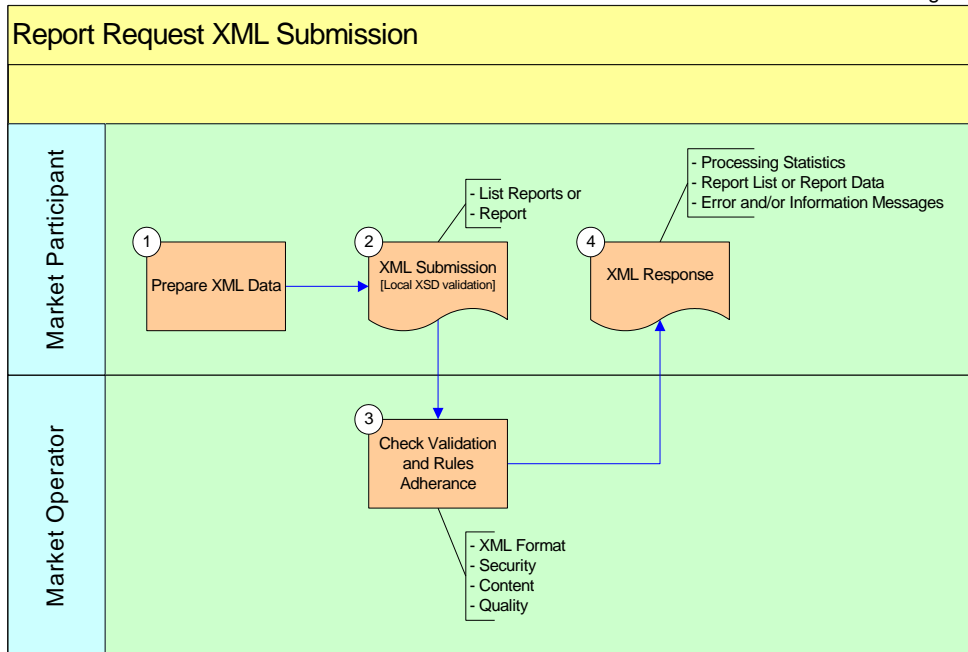


Figure 69: Report Request XML Submission Process

- **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 69](#).

## 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.<br>Must be validation combination with USER_NAME.<br>Must have system privileges to allow Market Trading.        |
| User_name        | Mandatory            | Must be STRING.<br>Must be validation combination with PARTICIPANT_NAME.<br>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 <sup>242526</sup> | Mandatory for request_type "REPORT"<br><br>Optional for request_type "LIST_REPORTS" | APPLICATION – ADHOC23<br>APPLICATION – NOTIFICATIONS<br><br>INTERFACE - IGMG<br>INTERFACE - DYNAMICS<br>INTERFACE - EMS<br>INTERFACE - MISCELLANEOUS<br>INTERFACE - INTERCONNECTOR<br>INTERFACE - NEMO<br>MARKET - DAM_STANDING_CLOSE<br>MARKET- IMBALANCE_PRICE<br>MARKET - SCHEDULES<br>MARKET - DISPATCH<br>MARKET - METERING<br>MARKET - MISCELLANEOUS<br>MARKET - PARTICIPANT_DATA<br>MARKET - DAM_STANDING_OPEN<br>REGISTRATION - SNAP_SHOT |
| periodicity                       | Mandatory   | Valid PERIODICITY: DAILY, MONTHLY, YEARLY, ADHOC<br><br>"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);<br>ALLMP (All MP specific reports);<br>PUB (Public reports).  |

<sup>24</sup> If report\_sub\_type = "ADHOC", then periodicity should also be "ADHOC".

<sup>25</sup> Report sub type is not applicable for Settlement reports.

<sup>26</sup> See Appendix D for Report Type and Sub-Types mapping

| Name       | Mandatory / Optional | Validation   |
|------------|----------------------|--|
| trade_date | Optional             | YYYY-MM-DD<br>For Daily market reports, the entire date is used. For monthly and yearly reports, the month and year are extracted from the trade date. |

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.<br>Must be validation combination with<br>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:<br><br>STTL_STATEMENT<br>STTL_REPORT<br>STTL_DOCUMENT<br>STTL_CALENDAR<br>ARA<br>COLLATERAL<br>BALIMB_FINANCIAL<br>BALIMB_INFO<br>CRM_FINANCIAL<br>CRM_INFO<br>MTR_GEN_INFO<br>OVER_UNDER_GEN_PARAMS<br>CRM_MARKET_PAYMENTS<br>CRM_UNIT_PAYMENTS<br>MAKE_WHOLE_PAYMENTS<br>CROSS_BORDER_MLY_CAP<br>CROSS_BORDER_WKLY_CAP<br>BALANCE_INCOME<br>MTR_VOL_JURIS<br>DLY_RESIDUAL_ERR_VOL |

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| Name       | Mandatory / Optional | Validation  |
|------------|----------------------|---|
| MarketName | Mandatory            | Valid MarketName:<br><br>BALIMB<br>BMCRM<br>CRM<br>MO<br>ALL  |
| RunType    | Mandatory            | Valid RunType:<br>INDICATIVE<br>INITIAL<br>M4<br>M13<br>REPT<br>ADHOC   |
| StartDate  | Mandatory            | YYYY-MM-DD<br>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:<br><br>STTL_STATEMENT<br>STTL_REPORT<br>STTL_DOCUMENT<br>STTL_CALENDAR<br>ARA<br>COLLATERAL<br>BALIMB_FINANCIAL<br>BALIMB_INFO<br>CRM_FINANCIAL<br>CRM_INFO<br>MTR_GEN_INFO<br>OVER_UNDER_GEN_PARAMS<br>CRM_MARKET_PAYMENTS<br>CRM_UNIT_PAYMENTS<br>MAKE_WHOLE_PAYMENTS<br>CROSS_BORDER_MLY_CAP<br>CROSS_BORDER_WKLY_CAP<br>BALANCE_INCOME<br>MTR_VOL_JURIS<br>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:<br><br>BALIMB<br>BMCRM<br>CRM<br>MO<br>ALL  |

| Name        | Mandatory / Optional | Validation   |
|-------------|----------------------|--|
| AccessClass | Mandatory            | Valid AccessClass:<br><br>MEMBER_PRIVATE<br>MEMBER_GEN_PUB<br>GENERAL_PUB<br>ENTSO_E |
| FileName    | Optional             | Must be String. Limit 120 characters.  |
| FileType    | Optional             | Valid FileType:<br><br>CSV<br>XML<br>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:<br>x : number of digits (including after the decimal).<br>y : number of digits to the right of the decimal.<br><br>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)<br><br>=<br>99999.999 |
| DATE (YYYY-MM-DD) | Date, format defined in parenthesis.<br><br>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                        |

| Format                       | Description   | Example             |
|------------------------------|---|---------------------|
| DATE TIME(YYYY-MM-DDTH24:MI) | Date and Time, format utilising a 24-hour clock.<br><br>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             |

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| Ref                                | Name                     | Member Private | Member Public |
|------------------------------------|--------------------------|----------------|---------------|
| REPT_042                           | Forecast Imbalance       |                | Y             |
| REPT_021,<br>REPT_086,<br>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

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#### 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             |

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

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| 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             |
| 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_057 | Energy Market Information Publication - Indicative      |                | Y             |
| REPT_058 | Energy Market Information Publication - Initial         |                | Y             |
| REPT_059 | Capacity Market Information Publication – Indicative    |                | Y             |
| REPT_060 | Capacity Market Information Publication - Initial       |                | Y             |
| REPT_061 | Capacity Market Financial Publication – Indicative      |                | Y             |
| REPT_062 | Capacity Market Financial Publication – Initial         |                | Y             |
| REPT_063 | Metered Generation Information Publication – Indicative |                | Y             |
| REPT_064 | Metered Generation Information Publication – Initial    |                | Y             |
| REPT_065 | DOG/PUG/TOLOG/TOLUG For Over/Under Generation           |                | Y             |
| REPT_067 | Settlement Calendar                                     |                | Y             |

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| Ref      | Name                               | Member Private | Member Public |
|----------|------------------------------------|----------------|---------------|
| 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    |                | 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 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 70: 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 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>
</OutboundData>
```

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

## I-SEM Technical Specification (ITS)

### Volume C: Balancing Market

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>I-SEM Report Reference:</i> | <i>REPT_025</i>  |
| <i>Report Type:</i>            | <i>Trans_System</i>  |
| <i>Report Sub-Type:</i>        | <i>Forecast</i>  |
| <i>Periodicity:</i>            | <i>Monthly</i>   |
| <i>Report Name:</i>            | <i>PUB_MonthlyLoadFcst</i>   |
| <i>File Names:</i>             | <i>PUB_MonthlyLoadFcst.xml</i>   |
| <i>Report Title:</i>           | <i>Monthly Load Forecast and Aggregated Load Forecast and Assumptions Report</i> |
| <i>Audience:</i>               | <i>Member Public</i>   |
| <i>Resolution:</i>             | <i>Trading Period</i>  |
| <i>Time Span:</i>              | <i>Following month</i>   |
| <i>Frequency:</i>              | <i>Once every Month</i>  |
| <i>Report Format:</i>          | <i>XML</i>   |

| 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 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 71: 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>I-SEM Report Reference:</i> | <i>REPT_037</i>                       |
| <i>Periodicity:</i>            | <i>Monthly</i>                        |
| <i>Report Name:</i>            | <i>PUB_MnlyRegisteredCapacity</i>     |
| <i>File Names:</i>             | <i>PUB_MnlyRegisteredCapacity.xml</i> |
| <i>Report Title:</i>           | <i>Registered Capacity Report</i>     |
| <i>Audience:</i>               | <i>Member Public</i>                  |
| <i>Resolution:</i>             | <i>n/a</i>                            |
| <i>Time Span:</i>              | <i>At the time of publication</i>     |
| <i>Frequency:</i>              | <i>Once every month</i>               |
| <i>Report Format:</i>          | <i>XML</i>                            |

| Field Name | Format | Description |
|------------|--------|-------------|
|------------|--------|-------------|

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

| 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"/>
  </OutboundData>

```

**Figure 72: 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>I-SEM Report Reference:</i> | <i>REPT_083</i>   |
| <i>Data Source</i>             | <i>System</i>   |
| <i>Report Name:</i>            | <i>PUB_DailyUnitUnderTest</i>                               |
| <i>File Names:</i>             | <i>PUB_DailyUnitUnderTest.xml</i>                           |
| <i>Report Title:</i>           | <i>Unit Under Test Report</i>                               |
| <i>Audience:</i>               | <i>Member Public</i>  |
| <i>Resolution:</i>             | <i>Per Physical Notification segment that is Under Test</i> |
| <i>Time Span:</i>              | <i>Trading Day + 1</i>                                      |
| <i>Frequency:</i>              | <i>Daily</i>  |
| <i>Report Format:</i>          | <i>XML</i>  |

| 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"/>
  </PUB_DailyUnitUnderTest>
</OutboundData>
```

Figure 73: 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 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>
</OutboundData>
```

Figure 74: REPT\_020: Daily Load Forecast Summary Report - Sample

### 6.7.3.3 FOUR DAY ROLLING WIND UNIT FORECAST REPORT

## I-SEM Technical Specification (ITS)

### Volume C: Balancing Market

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.

|                                |   |
|--------------------------------|---|
| <b>I-SEM Report Reference:</b> | <b>REPT_027</b>   |
| <b>Periodicity:</b>            | <b>On Demand</b>  |
| <b>Data Source:</b>            | <b>TSO (WEF)</b>  |
| <b>Report Name:</b>            | <b>PUB_4DayRollWindUnitFcst</b>   |
| <b>File Names:</b>             | <b>PUB_4DayRollWindUnitFcst_YYYYMMDDHHMM.xml</b>                        |
| <b>Report Title:</b>           | <b>Four Day Rolling Wind Unit Forecast Report</b>                       |
| <b>Audience:</b>               | <b>Member Public</b>  |
| <b>Resolution:</b>             | <b>15 minutes</b>   |
| <b>Time Span:</b>              | <b>Next four Trading Days</b>   |
| <b>Frequency:</b>              | <b>Four times per day, following receipt of each Wind Unit Forecast</b> |
| <b>Report Format:</b>          | <b>XML</b>  |

| 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"/>
</OutboundData>
```

Figure 75: 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.

|                                |  |
|--------------------------------|--|
| <b>I-SEM Report Reference:</b> | <b>REPT_028</b>  |
| <b>Periodicity:</b>            | <b>On Demand</b>   |
| <b>Report Name:</b>            | <b>PUB_4DayAggRollWindUnitFcst</b>                           |
| <b>File Names:</b>             | <b>PUB_4DayAggRollWindUnitFcst_YYYYMMDDHHMM.xml</b>          |
| <b>Report Title:</b>           | <b>Four Day Aggregated Rolling Wind Unit Forecast Report</b> |
| <b>Audience:</b>               | <b>Member Public</b>   |
| <b>Resolution:</b>             | <b>15 mins</b>   |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

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 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"/>
  </PUB_4DayAggRollWindUnitFcst>
</OutboundData>
</I-SEM>
```

Figure 76: 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

I-SEM Technical Specification (ITS)  
Volume C: Balancing Market

```
<?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"/>
  </OutboundData>
</I-SEM>
```

Figure 77: 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. |
| TOTAL PN                    | NUMBER(8,3)             | Sum of <u>the Spot PNs (MW) on the Settlement Imbalance Period Start Time.</u>   |
| NET INTERCONNECTOR SCHEDULE | NUMBER(8,3)             | Net Interconnector schedule  |
| TSO DEMAND FORECAST         | NUMBER(8,3)             | TSO demand forecast ( <u>MW</u> )  |
| TSO RENEWABLE FORECAST      | NUMBER(8,3)             | TSO renewables forecast (for non Dispatchable renewables)  |

Table 72: Forecast Imbalance Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-24T22:00:16" DateType="TRADE" Date="2018-07-24" DatasetType="HOURLY"
  DatasetName="PUB_HrlyForecastImbalance" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <PUB_HrlyForecastImbalance CalculatedImbalance="1293.782" TSORenewableForecast="289.658" TSODemandForecast="3448"
    NetInterconnectorSchedule="0" TotalPN="1864.56" EndTime="2018-07-24T23:30:00" StartTime="2018-07-24T23:00:00"
    TradeDate="2018-07-25" ROW="1"/>
  <PUB_HrlyForecastImbalance CalculatedImbalance="1261.907" TSORenewableForecast="284.223" TSODemandForecast="3300"
    NetInterconnectorSchedule="0" TotalPN="1753.87" EndTime="2018-07-25T00:00:00" StartTime="2018-07-24T23:30:00"
    TradeDate="2018-07-25" ROW="2"/>
  <PUB_HrlyForecastImbalance CalculatedImbalance="1127.567" TSORenewableForecast="280.893" TSODemandForecast="3184"
    NetInterconnectorSchedule="0" TotalPN="1775.54" EndTime="2018-07-25T00:30:00" StartTime="2018-07-25T00:00:00"
    TradeDate="2018-07-25" ROW="3"/>
  <PUB_HrlyForecastImbalance CalculatedImbalance="1035.879" TSORenewableForecast="291.271" TSODemandForecast="3102"
    NetInterconnectorSchedule="0" TotalPN="1774.85" EndTime="2018-07-25T01:00:00" StartTime="2018-07-25T00:30:00"
    TradeDate="2018-07-25" ROW="4"/>
  </OutboundData>
</I-SEM>
```

Figure 78: 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 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"/>
</OutboundData>
```

Figure 79: 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

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

**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 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 80: 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)   |

# I-SEM Technical Specification (ITS)

## Volume C: Balancing Market

| Field Name                     | Format       | Description   |
|--------------------------------|--------------|---|
| FUEL TYPE                      | VARCHAR2(22) | Fuel type. Possible values are:<br>Oil<br>Gas<br>Peat<br>Wind<br>Biomass<br>CHP<br>Hydro<br>Coal<br>Distillate<br>Nuclear<br>Battery Storage<br>Multi Fuel<br>Pump Storage<br>Fly Wheel<br>Solar<br>Compressed Air Storage<br>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.<br>Null for supplier, demand and Interconnector<br>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.<br><input type="checkbox"/> Null for Unit is not under test<br><input type="checkbox"/> 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.  |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

| 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. |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

| 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)                     |
| PUMPING LOAD CAP         | NUMBER(8,3)  | means the maximum amount of Active Power consumed by a Pumped Storage Unit when in Pumping Mode, or a Battery Storage Unit in Storage Mode (MW).. |
| 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**

```

<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-25T09:15:02" DateType="TRADE" Date="2018-07-24" DatasetType="DAILY"
  DatasetName="PUB_DailyTechnicalOfferData" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <PUB_DailyTechnicalOfferData MaximumDownTime="2" MinimumDownTime="0.5" MaximumRampDownRate="1.72"
    MaximumRampUpRate="1.72" MinimumStorageCapacity="0" MaximumStorageCapacity="0" MaximumGeneration="0"
    NonFirmAccQuantity="0" FirmAccessQuantity="0" EnergyLimitYN="N" PumpStorageYN="N" DispatchableYN="Y"
    PriorityDispatchYN="N" Jurisdiction="ROI" ResourceType="DSU" ResourceName="DSU_401270" DeliveryDate="2018-07-23"
    EndTime="2018-07-23T22:30:00" StartTime="2018-07-23T22:00:00" TradeDate="2018-07-24" ROW="1"/>
  <PUB_DailyTechnicalOfferData MaximumDownTime="2" MinimumDownTime="0.5" MaximumRampDownRate="1.428"
    MaximumRampUpRate="1.589" MinimumStorageCapacity="0" MaximumStorageCapacity="0" MaximumGeneration="0"
    NonFirmAccQuantity="0" FirmAccessQuantity="0" EnergyLimitYN="N" PumpStorageYN="N" DispatchableYN="Y"
    PriorityDispatchYN="N" Jurisdiction="ROI" ResourceType="DSU" ResourceName="DSU_401330" DeliveryDate="2018-07-23"
    EndTime="2018-07-23T22:30:00" StartTime="2018-07-23T22:00:00" TradeDate="2018-07-24" ROW="2"/>
  <PUB_DailyTechnicalOfferData MaximumDownTime="2" MinimumDownTime="0.367" MaximumRampDownRate="0.592"
    MaximumRampUpRate="0.592" MinimumStorageCapacity="0" MaximumStorageCapacity="0" MaximumGeneration="0"
    NonFirmAccQuantity="0" FirmAccessQuantity="0" EnergyLimitYN="N" PumpStorageYN="N" DispatchableYN="Y"
    PriorityDispatchYN="N" Jurisdiction="ROI" ResourceType="DSU" ResourceName="DSU_401390" DeliveryDate="2018-07-23"
    EndTime="2018-07-23T22:30:00" StartTime="2018-07-23T22:00:00" TradeDate="2018-07-24" ROW="3"/>

```

**Figure 81: 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              |
| PARTICIPANT_NAME | VARCHAR2(12)      | Name of the participant. |

# I-SEM Technical Specification (ITS)

## Volume C: Balancing Market

| Field Name           | Format                  | Description  |
|----------------------|-------------------------|--|
| 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")   |

Table 76: Commercial Offer Data Report – Member Private

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

```
<?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"/>
  </MP_HlfHrlyCOD>
</OutboundData>
```

**Figure 82: 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   |
| INCPRI1          | NUMBER(8,2)             | INC PQ Pair Price 1  |
| INCQUANT1        | NUMBER(8,3)             | INC PQ Pair Quantity 1   |
| INCPRI2          | NUMBER(8,2)             | INC PQ Pair Price 2  |
| INCQUANT2        | NUMBER(8,3)             | INC PQ Pair Quantity 2   |
| INCPRI3          | NUMBER(8,2)             | INC PQ Pair Price 3  |
| INCQUANT3        | NUMBER(8,3)             | INC PQ Pair Quantity 3   |
| INCPRI4          | NUMBER(8,2)             | INC PQ Pair Price 4  |
| INCQUANT4        | NUMBER(8,3)             | INC PQ Pair Quantity 4   |
| INCPRI5          | NUMBER(8,2)             | INC PQ Pair Price 5  |
| INCQUANT5        | NUMBER(8,3)             | INC PQ Pair Quantity 5   |
| INCPRI6          | NUMBER(8,2)             | INC PQ Pair Price 6  |
| INCQUANT6        | NUMBER(8,3)             | INC PQ Pair Quantity 6   |
| INCPRI7          | NUMBER(8,2)             | INC PQ Pair Price 7  |
| INCQUANT7        | NUMBER(8,3)             | INC PQ Pair Quantity 7   |
| INCPRI8          | NUMBER(8,2)             | INC PQ Pair Price 8  |
| INCQUANT8        | NUMBER(8,3)             | INC PQ Pair Quantity 8   |
| INCPRI9          | NUMBER(8,2)             | INC PQ Pair Price 9  |
| INCQUANT9        | NUMBER(8,3)             | INC PQ Pair Quantity 9   |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

| 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")                   |

**Table 77: Commercial Offer Data Report – Member Public**

```

<?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="2018-07-23T23:00:00" StartTime="2018-07-23T22:00:00" DeliveryDate="2018-07-23" BidType="Complex"
    Jurisdiction="RO1" 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="2018-07-23T22:00:00" DeliveryDate="2018-07-23" BidType="Complex"
    Jurisdiction="RO1" ResourceType="GEN" ResourceName="GU_400120" ParticipantName="PT_400024" TradeDate="2018-07-24"
    ROW="2"/>

```

**Figure 83: 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

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

**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 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 84: 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

|                       |                       |
|-----------------------|-----------------------|
| <u>Resolution:</u>    | <u>Trading Period</u> |
| <u>Time Span:</u>     | <u>Trading Day</u>    |
| <u>Frequency:</u>     | <u>Daily</u>          |
| <u>Report Format:</u> | <u>XML</u>            |

Formatted: Heading 5

#### 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 7978: Daily Standing Conversion at Market Open Report: COD Complex Detail Element

#### 6.7.4.5.2 FORECAST AVAILABILITY 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 8078: Daily Standing Conversion at Market Open Report: Forecast Availability Detail Element

```
<?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-instance"
  <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" applic
  <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"/>
    </dec_curve_detail>
  </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 8584: 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 Technical Specification (ITS)**  
Volume C: Balancing Market

*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 8179: 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"/>
</OutboundData>
```

Figure 8685: 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

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

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 8289: Aggregated Contracted Quantities for Demand Report

```
<?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"/>
</OutboundData>
```

Figure 8786: 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 8384: Aggregated Contracted Quantities for Wind Report

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

```
<?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 8897: 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>I-SEM Report Reference</i> | <i>REPT_052</i>   |
| <i>Data Source</i>            | <i>MP submissions</i>   |
| <i>Periodicity:</i>           | <i>Half hourly</i>  |
| <i>Report Name:</i>           | <i>PUB_HlfHrlyPN</i>  |
| <i>File Names:</i>            | <i>PUB_HlfHrlyPN_YYYYMMDDHHMM.xml</i>   |
| <i>Report Title:</i>          | <i>Physical Notifications Report Public File</i>                                |
| <i>Audience:</i>              | <i>Member Public</i>  |
| <i>Resolution:</i>            | <i>Per Physical Notification</i>  |
| <i>Time Span:</i>             | <i>All Physical Notifications submitted for the Imbalance Settlement Period</i> |
| <i>Frequency:</i>             | <i>After each Balancing Market Gate Closure</i>                                 |
| <i>Report Format:</i>         | <i>XML</i>  |

| 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 8482: Physical Notifications Report

```
<?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 8998: 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>I-SEM Report Reference:</i> | <i>REPT_089</i>                                |
| <i>Data Source</i>             | <i>MP submissions</i>                          |
| <i>Periodicity:</i>            | <i>Daily</i>                                   |
| <i>Report Name:</i>            | <i>PUB_DailyFinalPhysicalNotifications</i>     |
| <i>File Names:</i>             | <i>PUB_DailyFinalPhysicalNotifications.xml</i> |
| <i>Report Title:</i>           | <i>Final Physical Notifications Report</i>     |
| <i>Audience:</i>               | <i>Member Public</i>                           |
| <i>Resolution:</i>             | <i>Per Physical Notification</i>               |
| <i>Time Span:</i>              | <i>Previous Trading Day</i>                    |
| <i>Frequency:</i>              | <i>Daily</i>                                   |
| <i>Report Format:</i>          | <i>XML</i>                                     |

| 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 8593: Final Physical Notifications Report

```

<?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 9089: 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>I-SEM Report Reference:</i> | <i>REPT_077</i>                                       |
| <i>Data Source</i>             | <i>TSO</i>  |
| <i>Periodicity:</i>            | <i>Daily</i>  |
| <i>Report Name:</i>            | <i>PUB_HlfHrlyAggregatedPN</i>                        |
| <i>File Names:</i>             | <i>PUB_HlfHrlyAggregatedPN_YYYYMMDDHHMM.xml</i>       |
| <i>Report Title:</i>           | <i>Aggregated Final Physical Notifications Report</i> |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

*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 8684: Aggregated Physical Notifications Report**

```
<?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-Issem.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 9199: 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 8785: LTS Operational Schedule Report – Member Public**

I-SEM Technical Specification (ITS)  
Volume C: Balancing Market

```
<?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 9294: 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\_RTICOperationalSchedule  
*File Names:* PUB\_RTICOperationalSchedule\_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 8886: RTIC Operational Schedule Report – Member Public

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T21:32:16" DateType="TRADE" Date="2018-07-24" DatasetType="SUB_HOURLY"
  DatasetName="PUB_RTICOperationalSchedule" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <PUB_RTICOperationalSchedule 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_RTICOperationalSchedule 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_RTICOperationalSchedule 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_RTICOperationalSchedule 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 9392: 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 Technical Specification (ITS)**  
Volume C: Balancing Market

*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 8987: RTID Operational Schedule Report, Member Private

```
<?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"/>
  </MP_RTDOperationalSchedule>
</OutboundData>
```

Figure 9493: 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  |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

| 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 9088: RTID Operational Schedule Report, Member Public

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-23T21:51:58" DateType="TRADE" Date="2018-07-24" DatasetType="HOURLY"
  DatasetName="MP_RTIDOperationalSchedule" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <MP_RTIDOperationalSchedule 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_RTIDOperationalSchedule 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_RTIDOperationalSchedule 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_RTIDOperationalSchedule 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"/>
  </MP_RTIDOperationalSchedule>
</OutboundData>
```

Figure 9594: REPT\_003b: RTID Operational Schedule Report, Member Public - 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 9189: 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 9695: 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 Technical Specification (ITS)**  
Volume C: Balancing Market

*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 9290: Imbalance Price Report (Imbalance Pricing Period)

```
<?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 9796: 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

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

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 9394: Imbalance Price Report (Imbalance Settlement Period)

```
<?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 9897: 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\_5MinImbalPrcSupplInfo  
File Names: PUB\_5MinImbalPrcSupplInfo\_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  |

I-SEM Technical Specification (ITS)  
Volume C: Balancing Market

| Field Name               | Format      | Description              |
|--------------------------|-------------|--------------------------|
| 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 9492: Imbalance Price Supporting Information Report

```
<?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"/>
</OutboundData>
</PUB_5MinImbalPrcSuppInfo>
</I-SEM>
```

Figure 9998: 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                |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

| Constraint Type | Constraint ID   | Test Type | Notes  |
|-----------------|-----------------|-----------|--|
| 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 |
| 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 9593: 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 9694: Balance and Imbalance Market Cost View Report Field Description

```
<?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 10099: 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>I-SEM Report Reference:</i> | <i>REPT_026</i>                                  |
| <i>Data Source</i>             | <i>TSO</i>                                       |
| <i>Periodicity:</i>            | <i>Daily</i>                                     |
| <i>Report Name:</i>            | <i>PUB_DailyTransOutageSchedule</i>              |
| <i>File Names:</i>             | <i>PUB_DailyTransOutageSchedule.xml</i>          |
| <i>Report Title:</i>           | <i>Daily Transmission Outage Schedule Report</i> |
| <i>Audience:</i>               | <i>Member Public</i>                             |
| <i>Resolution:</i>             | <i>Per outage durations</i>                      |
| <i>Time Span:</i>              | <i>Next Trading Day</i>                          |
| <i>Frequency:</i>              | <i>Daily</i>                                     |
| <i>Report Format:</i>          | <i>XML</i>                                       |

| 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:<br>P – Planned<br>F- Forced<br>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 9795: Daily Transmission Outage Schedule Report

```
<?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 101490: 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>I-SEM Report Reference:</i> | <i>REPT_010</i>                           |
| <i>Data Source</i>             | <i>Market Operator</i>                    |
| <i>Periodicity:</i>            | <i>Daily</i>                              |
| <i>Report Name:</i>            | <i>PUB_DailyExchangeRate</i>              |
| <i>File Names:</i>             | <i>PUB_DailyExchangeRate.xml</i>          |
| <i>Report Title:</i>           | <i>Daily Trading Exchange Rate Report</i> |
| <i>Audience:</i>               | <i>Member Public</i>                      |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

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

Table 9896: Daily Trading Day Exchange Rate Report

```
<?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 102404: 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 9997: Daily Dispatch Instructions (D+1) Report

```
<?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"/>
</OutboundData>
```

Figure 103402: 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 10098: Daily Dispatch Instructions (D+4) Report

```
<?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"/>
</OutboundData>
```

Figure 104403: REPT\_007: Daily Dispatch Instructions (D+4) Report - Sample

### 6.7.9.3 DAILY DEMAND CONTROL DATA TRANSACTION REPORT

## I-SEM Technical Specification (ITS)

### Volume C: Balancing Market

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 10199: Daily Demand Control Data Transaction Report

```
<?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 105404: 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

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

| 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: 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 102400: Daily Generator Unit Technical Characteristics Data Transaction Report

```
<?xml version="1.0"?>
- <OutboundData PublishTime="2018-07-21T13:00:01" DateType="TRADE" Date="2018-07-20" DatasetType="DAILY"
  DatasetName="PUB_DlyGenUnitTechCharDataTrans" xsi:noNamespaceSchemaLocation="mi-outbound-reports-isem.xsd"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <PUB_DlyGenUnitTechCharDataTrans FuelUseFlag="P" OutturnMinimumOutput="0" OutturnMinimumStableGen="0" OutturnAvailability="0"
    IssueTime="2018-07-19T22:00:00" EffectiveTime="2018-07-19T22:00:00" ResourceType="GEN" ResourceName="GU_400021"
    ParticipantName="PT_400021" TradeDate="2018-07-20" ROW="1"/>
  <PUB_DlyGenUnitTechCharDataTrans FuelUseFlag="P" OutturnMinimumOutput="0" OutturnMinimumStableGen="0" OutturnAvailability="0"
    IssueTime="2018-07-19T22:30:00" EffectiveTime="2018-07-19T22:30:00" ResourceType="GEN" ResourceName="GU_400021"
    ParticipantName="PT_400021" TradeDate="2018-07-20" ROW="2"/>
  <PUB_DlyGenUnitTechCharDataTrans FuelUseFlag="P" OutturnMinimumOutput="0" OutturnMinimumStableGen="0" OutturnAvailability="0"
    IssueTime="2018-07-19T23:00:00" EffectiveTime="2018-07-19T23:00:00" ResourceType="GEN" ResourceName="GU_400021"
    ParticipantName="PT_400021" TradeDate="2018-07-20" ROW="3"/>
  <PUB_DlyGenUnitTechCharDataTrans FuelUseFlag="P" OutturnMinimumOutput="0" OutturnMinimumStableGen="0" OutturnAvailability="0"
    IssueTime="2018-07-19T23:30:00" EffectiveTime="2018-07-19T23:30:00" ResourceType="GEN" ResourceName="GU_400021"
    ParticipantName="PT_400021" TradeDate="2018-07-20" ROW="4"/>
</OutboundData>
```

Figure 106405: 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>I-SEM Report Reference:</i> | REPT_016   |
| <i>Data Source</i>             | Market Participant   |
| <i>Periodicity:</i>            | Daily  |
| <i>Report Name:</i>            | PUB_DailyRedecs  |
| <i>File Names:</i>             | PUB_DailyRedecs.xml  |
| <i>Report Title:</i>           | Daily Energy Limited Generator Unit Technical Characteristic Data Transaction Report |
| <i>Audience:</i>               | Member Public  |
| <i>Resolution:</i>             | Trading Period   |
| <i>Time Span:</i>              | Previous Trading Day (TD-1)  |
| <i>Frequency:</i>              | Daily  |
| <i>Report Format:</i>          | 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). |

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

Table 103404: 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"/>
</OutboundData>
```

Figure 107406: 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.

*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) and (TD-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 104402: Daily Meter Data Report

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Volume C: Balancing Market

```
<?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="ROT" 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="ROT" 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="ROT" 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"/>
</OutboundData>
```

Figure 108+07: 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: ~~Calendar~~ 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+03: Average System Frequency Report

```
<?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>
</OutboundData>
```

Figure 109+08: 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.

~~This daily report contains Interconnector Trades for the previous Calendar Day, including interconnector import/export prices and associated MW quantities.~~

I-SEM Report Reference: REPT\_030  
Periodicity: Daily

Comment [A1]: Needs explanation of content, to be provided by Shane/Jude

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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 106404: SO Interconnector Trades Report

```
<?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-1sem.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 110499: 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). |

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| Field Name    | Format       | Description   |
|---------------|--------------|---|
| RESOURCE TYPE | VARCHAR2(4)  | Type of resource  |
| FUEL TYPE     | VARCHAR2(22) | Fuel type. Possible values are:<br>Oil<br>Gas<br>Peat<br>Wind<br>Biomass<br>CHP<br>Hydro<br>Coal<br>Distillate<br>Nuclear<br>Battery Storage<br>Multi Fuel<br>Pump Storage<br>Fly Wheel<br>Solar<br>Compressed Air Storage<br>Other |

Table 107405: Unit Data Report

```
<?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"/>
  </OutboundData>
</xml>
```

Figure 111440: 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   |

I-SEM Technical Specification (ITS)  
Volume C: Balancing Market

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

Table 108406: 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"/>
</OutboundData>
```

Figure 112444: 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 109407: 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"/>
</OutboundData>
```

Figure 113442: 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

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

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 110408: 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"/>
  </PUB_AvgOutturnAvail>
</OutboundData>
```

Figure 114443: 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 111409: Outturn Availability Report

```
<?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 115444: 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>I-SEM Report Reference:</i> | <i>REPT_102</i>  |
| <i>Data Source</i>             | <i>TSO</i>   |
| <i>Periodicity:</i>            | <i>Hourly</i>  |
| <i>Report Name:</i>            | <i>PUB_HrlyDispatchInstr</i>   |
| <i>File Names:</i>             | <i>PUB_HrlyDispatchInst_YYYYMMDDHHMM.xml</i>                         |
| <i>Report Title:</i>           | <i>Hourly Dispatch Instructions Report</i>                           |
| <i>Audience:</i>               | <i>Member Public</i>   |
| <i>Resolution:</i>             | <i>Point in time</i>   |
| <i>Time Span:</i>              | <i>Whole hour preceding the time at which the report is produced</i> |
| <i>Frequency:</i>              | <i>Hourly</i>  |
| <i>Report Format:</i>          | <i>XML</i>   |

| 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 112440: Hourly Dispatch Instructions Report

```
<?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"/>
</OutboundData>
```

Figure 116445: 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.

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*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 113144: Hourly SO Interconnector Trades Report

```
<?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 117146: 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 114442: Anonymised Inc/Dec Curves Report

```
<?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"/>
  </OutboundData>
</xml>
```

Figure 118447: 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 115443: List of Registered Units Report

```
<?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"/>
</OutboundData>
```

Figure 119448: 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>I-SEM Report Reference:</i> | REPT_036  |
| <i>Data Source</i>             | Registration  |
| <i>Periodicity:</i>            | Daily   |
| <i>Report Name:</i>            | PUB_DailyRegisteredParties  |
| <i>File Names:</i>             | PUB_DailyRegisteredParties.xml  |
| <i>Report Title:</i>           | List of Registered Parties Report   |
| <i>Audience:</i>               | Member Public   |
| <i>Resolution:</i>             | n/a   |
| <i>Time Span:</i>              | Currently Active/Approved Parties, as registered at the time of publication |
| <i>Frequency:</i>              | Daily, only when a new Party Registration is approved.                      |
| <i>Report Format:</i>          | 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<br>Terminated (Voluntarily)<br>Terminated |
| REGISTRATION DATE | YYYY-MM-DD              | Trading Day when registered                                |
| TERMINATION DATE  | YYYY-MM-DD              | Trading Day when deregistered                              |

Table 116444: List of Registered Parties Report

```
<?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"/>
</OutboundData>
```

Figure 120449: 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 |

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| REPORT ID | REPORT NAME                                       | REPORT CODE | SCHEMA                |
|-----------|---|-------------|-----------------------|
| 048       | COLLATERAL REPORT (INC. COLLATERAL REFUND NOTICE) | CR          | XSD_REPT_048          |
| 055, 056  | ENERGY MARKET FINANCIAL PUBLICATION               | EF          | XSD_REPT_055_REPT_056 |
| 057, 058  | ENERGY MARKET INFORMATION PUBLICATION             | EI          | XSD_REPT_057_REPT_058 |
| 059, 060  | CAPACITY MARKET FINANCIAL PUBLICATION             | CF          | XSD_REPT_059_REPT_060 |
| 061, 062  | CAPACITY MARKET INFORMATION PUBLICATION           | CI          | XSD_REPT_061_REPT_062 |
| 063, 064  | METERED GENERATION INFORMATION PUBLICATION        | MI          | XSD_REPT_063_REPT_064 |
| 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 117445: 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>I-SEM Report Reference:</i> | REPT_043  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Defined Schedule by the Settlement Calendar (Daily by Business Day)         |
| <i>File Names:</i>             | SS_<PT_NNN>_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Settlement Statement  |
| <i>Audience:</i>               | Member Private  |
| <i>Resolution:</i>             | Charge Code by Unit by Imbalance Settlement Period                          |
| <i>Time Span:</i>              | Daily Charges and Credits   |
| <i>Frequency:</i>              | Defined Schedule by the Settlement Calendar (Daily by Business Day)         |
| <i>Report Format:</i>          | 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)   |
| 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 118446: 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 119447: 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                                    |

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|               |              |                                 |
|---------------|--------------|---------------------------------|
| RESOURCE_NAME | VARCHAR2(32) | Name of the resource            |
| VALUE: AMOUNT | NUMBER(24,4) | Amount of the charge in the ISP |

Table 120448: Settlement Statement Detail Field Description

```
<?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="CVM0"/>
  </REPORT_SUMMARY>
  - <REPORT_DETAIL>
    - <RESOURCE name="SU_000000">
      - <CHARGE name="CVM0">
        <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"/>
      </CHARGE>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>
```

Figure 121420: 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 CAOPO (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>I-SEM Report Reference:</i> | REPT_044  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Defined Schedule by the Settlement Calendar (Daily by Business Day)         |
| <i>File Names:</i>             | SR_<PT_NNN>_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Settlement Report   |
| <i>Audience:</i>               | Member Private  |
| <i>Resolution:</i>             | Imbalance Settlement Period and Dispatch Period                             |
| <i>Time Span:</i>              | Settlement Day determinants by applicable time                              |
| <i>Frequency:</i>              | Defined Schedule by the Settlement Calendar (Daily by Business Day)         |
| <i>Report Format:</i>          | 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 121449: Settlement Report Header Field Description

| Field Name       | Format       | Description  |
|------------------|--------------|--|
| DETERMINANT_NAME | VARCHAR2(16) | Name of the determinant. <u>Note:</u> 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.  |

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| Field Name         | Format                  | Description   |
|--------------------|-------------------------|---|
| 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 122420: Settlement Report Detail Field Description

```
<?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"/>
  - </DETERMINANT>
- </REPORT_DETAIL>
- </REPORT>
```

Figure 122421: 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>I-SEM Report Reference:</i> | REPT_045  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | As defined by Settlement Calendar (Weekly, Ad hoc as required)          |
| <i>File Names:</i>             | SD_<PT_NNN>_<PublicationDay>_<PublicationDay>_<Market>_REPT_<Timestamp> |
| <i>Report Title:</i>           | Settlement Document   |
| <i>Audience:</i>               | Member Private  |
| <i>Resolution:</i>             | Settlement Charges by Charge Component by Billing Period                |
| <i>Time Span:</i>              | Billing Period (weekly) and ad hoc as necessary                         |
| <i>Frequency:</i>              | Billing Period (weekly) and ad hoc as necessary                         |
| <i>Report Format:</i>          | XML   |

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| 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 123421: 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 SMO 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-Billing 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 SMO 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-Billing Invoices)  |
| VAT_JURISDICTION    | VARCHAR2(3)   | VAT Jurisdiction (will only be present for Invoices and Self-Billing Invoices)  |

Table 124122: 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                       |
| 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_NONEU (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. |

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| Field Name               | Format       | Description  |
|--------------------------|--------------|--|
| 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 125123: 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 (BMCRM 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 |
| 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  |

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| Field Name                               | Format       | Description   |
|--|--------------|---|
| SALES: S_VAT_TOTAL_PREV                  | NUMBER(22,2) | Previous Total Sales VAT amount, only present for Invoices and Self-Billing Invoices                    |
| PURCHASES: P_TOTAL                       | NUMBER(22,2) | Total Purchases   |
| PURCHASES: P_LOCAL                       | NUMBER(22,2) | Local Purchases   |
| PURCHASES: P_EU                          | NUMBER(22,2) | EU (excluding Local) Purchases  |
| PURCHASES: P_NEU                         | NUMBER(22,2) | Non-EU Purchases  |
| PURCHASES: P_TOTAL_PREV                  | NUMBER(22,2) | Previous Total Purchases  |
| PURCHASES: P_LOCAL_PREV                  | NUMBER(22,2) | Previous Local Purchases  |
| PURCHASES: P_EU_PREV (EU PURCHASES)      | NUMBER(22,2) | Previous EU (excluding Local) Purchases   |
| PURCHASES: P_NEU_PREV (NON-EU PURCHASES) | NUMBER(22,2) | Previous Non-EU Purchases   |
| PURCHASES: P_VAT_TOTAL                   | NUMBER(22,2) | Total Purchases VAT amount, only present for Invoices and Self-Billing Invoices                         |
| PURCHASES: P_VAT_LOCAL                   | NUMBER(22,2) | Local Purchases VAT amount, only present for Invoices and Self-Billing Invoices                         |
| PURCHASES: P_VAT_EU                      | NUMBER(22,2) | EU (excludes Local) Purchase VAT amount, only present for Invoices and Self-Billing Invoices            |
| PURCHASES: P_VAT_EU_PREV                 | NUMBER(22,2) | Previous EU (excluding Local) Purchases VAT amount, only present for Invoices and Self-Billing Invoices |
| PURCHASES: P_VAT_LOCAL_PREV              | NUMBER(22,2) | Previous Local Purchases VAT amount, only present for Invoices and Self-Billing Invoices                |
| PURCHASES: P_VAT_TOTAL_PREV              | NUMBER(22,2) | Previous Total Purchase VAT amount, only present for Invoices and Self-Billing Invoices                 |

Table 126424: 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 127425: Invoice/Settlement Document Tracking Field Description

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

Table 128426: 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 129427: Invoice/Settlement Document Legal VAT Text Field Description

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```
<?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="BMRM" 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="CDIFFFPID" 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="CDIFFFPIMB" 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="CABBP" 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="CAOPO" 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 123422: REPT\_045: Settlement Document - Sample

```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <REPORT_HEADER document_type="Invoice" document_id="1234" document_currency="GBP" due_date="2018-07-16" publication_timestamp="2018-07-06T13:15:22+00:00" publication_date="2018-07-06" market="MO" participant_name="Power NI" participant_id="PT_000000" report_type="SD"/>
  <CONTACT vat_jurisdiction="NI" recipient_address="555 Cherry Blossom Road, Cork, NI" recipient_id="PT_000000" sender_address="123 Daffodil Lane, Belfast, BT0 0RT, UK" sender_id="SONI Ltd."/>
  <REPORT_SUMMARY payment_type="Participant to Pay SEMO" s_neu="0.00" p_neu="0.00" s_eu="0.00" p_eu="0.00" s_local="1.00" p_local="-1.00" s_total="1.00" p_total="-1.00" interest="0.00" tax_amount="1.000000000" tax_rate="0.000000000" net_amount="1.000000000" preliminary_total="1.00" reallocation_total="1.00" grand_total="1.00"/>
- <REPORT_DETAIL>
  - <DETAIL market="MO" interest="0.00" tax_amount="1.00" tax_rate="0.000000000" net_amount="1.00" new_gross_amount="1.00" previous_gross_amount="0.00" charge_name="CVM0" bp_end_date="2018-06-30" bp_start_date="2018-06-01" run_type="INIT">
    <SALES s_neu="0.00" s_eu="0.00" s_local="1.00" s_total="1.00" s_vat_neu_prev="0.00" s_vat_eu_prev="0.00" s_vat_local_prev="0.00" s_vat_total_prev="0.00" s_vat_neu="0.00" s_vat_eu="0.00" s_vat_local="1.00" s_vat_total="1.00" 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="1.00" p_total="1.00" p_vat_neu_prev="0.00" p_vat_eu_prev="0.00" p_vat_local_prev="1.00" p_vat_total_prev="1.00" p_neu_prev="0.00" p_eu_prev="0.00" p_local_prev="0.00" p_total_prev="0.00"/>
  </DETAIL>
  + <DETAIL market="MO" interest="0.00" tax_amount="1.00" tax_rate="0.000000000" net_amount="1.00" new_gross_amount="1.00" previous_gross_amount="0.00" charge_name="CMOAU" bp_end_date="2018-06-30" bp_start_date="2018-06-01" run_type="INIT">
  + <DETAIL market="MO" interest="0.00" tax_amount="1.00" tax_rate="0.000000000" net_amount="1.00" new_gross_amount="1.00" previous_gross_amount="0.00" charge_name="CMOAV" bp_end_date="2018-06-30" bp_start_date="2018-06-01" run_type="INIT">
  </REPORT_DETAIL>
+ <REPORT_TRACKING>
- <REPORT_SRA>
  <SRA sra_amount="1.00" sra_counterparty="PT_000001"/>
</REPORT_SRA>
- <VAT_INFORMATION>
```

Figure 124123: 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>I-SEM Report Reference:</i> | REPT_046  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | SA_<PT_NNN>_<PublicationDay>_<PublicationDay>_ALL_REPT_<Timestamp>    |
| <i>Report Title:</i>           | Reallocation Requests   |
| <i>Audience:</i>               | Member Private, EirGrid Internal (all Reallocation Agreements)        |
| <i>Resolution:</i>             | Term of Reallocation Agreement (could be open or no termination date) |
| <i>Time Span:</i>              | Term of Reallocation Agreement (could be open or no termination date) |
| <i>Frequency:</i>              | Daily, ad hoc as required   |
| <i>Report Format:</i>          | 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 130428: Reallocation Agreement Report Header Field Description

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

Table 131429: 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 125424: 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;

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- 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>I-SEM Report Reference:</i> | REPT_048   |
| <i>Data Source</i>             | CSB Settlement System  |
| <i>Periodicity:</i>            | Daily, Ad hoc as necessary   |
| <i>File Names:</i>             | CR_<PT_NNN>_<PublicationDay>_<PublicationDay>_ALL_REPT_<Timestamp> |
| <i>Report Title:</i>           | Collateral Report  |
| <i>Audience:</i>               | Member Private, EirGrid Internal for all Participants              |
| <i>Resolution:</i>             | Credit Cover Requirement by Exposure Period and Posted Collateral  |
| <i>Time Span:</i>              | Daily Exposure and Posted Collateral                               |
| <i>Frequency:</i>              | Daily Exposure and Posted Collateral                               |
| <i>Report Format:</i>          | 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 132430: Collateral Report Header Field Description

| Field Name              | Format       | Description   |
|-------------------------|--------------|---|
| PARTICIPANT_STATUS      | VARCHAR2(24) | New<br>Adjusted<br>Standard   |
| CURRENCY                | VARCHAR2(3)  | Participant Currency (EUR or GBP)   |
| CREDIT STATUS           | VARCHAR2(24) | <ul style="list-style-type: none"> <li>○ OK = Posted Credit Cover is within sufficient limits of Required Credit Cover;</li> <li>○ WARNING = Posted Credit Cover is within warning limits of Required Credit Cover (e.g. PCC to RCC ratio is above 80%);</li> <li>○ BREACH = Posted Credit Cover is less than Required Credit Cover;</li> <li>○ EXCEED = Posted Credit Cover is in excess of Required Credit Cover to the limit that a refund is allowable</li> </ul> |
| 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 133434: 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            |

Table 134432: 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 126125: 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.

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### 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>I-SEM Report Reference:</i> | REPT_055  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | EF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Energy Market Financial Publication - Indicative                          |
| <i>Audience:</i>               | General Public  |
| <i>Resolution:</i>             | Imbalance Settlement Period   |
| <i>Time Span:</i>              | Market Volume and Settlement by Settlement Period                         |
| <i>Frequency:</i>              | Settlement Day  |
| <i>Report Format:</i>          | 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)    |

Table 135133: 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 136134: Energy Market Financial Publication Detail Field Description

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```
<?xml version="1.0" encoding="UTF-8"?>
- <REPORT xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <REPORT_HEADER run_type="INDIC" publication_timestamp="2018-07-11T16:13:22+00:00" publication_date="2018-07-11"
    settlement_date="2018-07-10" market_name="BALIMB" report_type="EF"/>
  - <REPORT_DETAIL>
    - <RESOURCE name="AU_400001">
      - <DETERMINANT name="CIMB" unit="EUR">
        <VALUE amount="0.00000000" datetime="2018-07-09T23:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-10T00:00:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-10T00:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-10T01:00:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-10T01:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-10T02:00:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-10T02:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-10T03:00:00+00:00"/>
      </DETERMINANT>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>
```

Figure 127426: REPT\_055/056: 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](#)

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*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 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)    |

Table 137435: 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.                          |

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Volume C: Balancing Market

|                    |                         |   |
|--------------------|-------------------------|---|
| 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       | NUMBER(2)               | Number of the order (may be negative).<br>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 138136: Energy Market Information 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="2018-07-16T16:21:12+00:00" publication_date="2018-07-16"
    settlement_date="2018-07-15" market_name="BALIMB" report_type="EI"/>
  <REPORT_DETAIL>
    <RESOURCE name="AU_400001">
      <DETERMINANT name="QEX" unit="MWh">
        <VALUE amount="0.00000000" datetime="2018-07-14T23:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-15T00:00:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-15T00:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-15T01:00:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-15T01:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-15T02:00:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-15T02:30:00+00:00"/>
        <VALUE amount="0.00000000" datetime="2018-07-15T03:00:00+00:00"/>
      </DETERMINANT>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>

```

**Figure 128127: REPT\_057/058: Energy Market Information Report - Sample**

#### 6.7.11.11 ENERGY MARKET INFORMATION PUBLICATION – INITIAL

Refer to section 6.7.11.10

|                                |   |
|--------------------------------|---|
| <i>I-SEM Report Reference:</i> | REPT_058  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | EI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Energy Market Information Publication - Initial                           |
| <i>Audience:</i>               | General Public  |
| <i>Resolution:</i>             | Imbalance Settlement Period   |
| <i>Time Span:</i>              | Market Volume and Settlement by Settlement Period                         |
| <i>Frequency:</i>              | Settlement Day  |
| <i>Report Format:</i>          | XML   |

#### 6.7.11.12 CAPACITY MARKET INFORMATION PUBLICATION – INDICATIVE

|                                |   |
|--------------------------------|---|
| <i>I-SEM Report Reference:</i> | REPT_061  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | CI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Capacity Market Information Publication - Indicative                      |
| <i>Audience:</i>               | General Public  |
| <i>Resolution:</i>             | Imbalance Settlement Period   |
| <i>Time Span:</i>              | Market Volume and Settlement by Settlement Period                         |
| <i>Frequency:</i>              | Settlement Day  |
| <i>Report Format:</i>          | XML   |

| Field Name | Format | Description |
|------------|--------|-------------|
|------------|--------|-------------|

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

|                       |                         |                              |
|-----------------------|-------------------------|------------------------------|
| 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)    |

Table 139137: 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 140138: Capacity Market Information 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="2018-07-16T15:32:36+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>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>
```

Figure 129128: REPT\_061/062: Capacity Market Information Report - Sample

### 6.7.11.13 CAPACITY MARKET INFORMATION PUBLICATION – INITIAL

Refer to section 6.7.11.12

|                                |   |
|--------------------------------|---|
| <i>I-SEM Report Reference:</i> | REPT_062  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | CI_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Capacity Market Information Publication - Initial                         |
| <i>Audience:</i>               | General Public  |
| <i>Resolution:</i>             | Imbalance Settlement Period   |
| <i>Time Span:</i>              | Market Volume and Settlement by Settlement Period                         |
| <i>Frequency:</i>              | Settlement Day  |
| <i>Report Format:</i>          | XML   |

### 6.7.11.14 CAPACITY MARKET FINANCIAL PUBLICATION – INDICATIVE

|                                |   |
|--------------------------------|---|
| <i>I-SEM Report Reference:</i> | REPT_059  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | CF_PT_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Capacity Market Financial Publication - Indicative                        |

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

*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           | VARCHAR(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              | VARCHAR(5)              | Type of run (INDIC, INIT)    |

Table 141139: 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  | VARCHAR(16)             | Name of the determinant                                    |
| RESOURCE: NAME    | VARCHAR(32)             | Name of the resource (if applicable)                       |
| DETERMINANT: UNIT | VARCHAR(8)              | Units for the determinant (e.g. MW)                        |
| VALUE: AMOUNT     | NUMBER(28,8)            | Amount of the determinant in the ISP                       |

Table 142140: 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"/>
      </DETERMINANT>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>
```

Figure 130129: REPT\_059/060: Capacity Market Financial Report - Sample

## 6.7.11.15 CAPACITY MARKET FINANCIAL PUBLICATION - INITIAL

Refer to section 6.7.11.14

*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

## 6.7.11.16 METERED GENERATION INFORMATION PUBLICATION - INDICATIVE

*I-SEM Report Reference:* REPT\_063  
*Data Source:* CSB Settlement System

**I-SEM Technical Specification (ITS)**  
Volume C: Balancing Market

|                |   |
|----------------|---|
| 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)    |

Table 143444: 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 144142: Metered Generation Information 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="2018-07-16T16:22:39+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"/>
        </DETERMINANT>
      </RESOURCE>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>
```

Figure 131130: REPT\_063/064: Metered Generation Information Report - Sample

## 6.7.11.17 METERED GENERATION INFORMATION PUBLICATION - INITIAL

Refer to section 6.7.11.16

|                         |   |
|-------------------------|---|
| 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   |

#### 6.7.11.18 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 145143: 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 146144: Under/Over Generation Report 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="2018-07-16T16:14:12+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"/>
      </DETERMINANT>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>
```

Figure 132134: REPT\_065: Under/Over Generation Report - Sample

#### 6.7.11.19 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<sup>27</sup>)  
*Report Title:* Settlement Calendar  
*Audience:* General Public

<sup>27</sup> File Type – can be either Operational day or Settlement day depending on how the report is generated

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*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 147145: 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 three values: <ul style="list-style-type: none"> <li>Imbalance (BALIMB)</li> <li>Capacity Market (CRM)</li> <li>MO</li> </ul>   |
| 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: <ul style="list-style-type: none"> <li>Statements</li> <li>Settlement Documents</li> <li>Payments IN</li> <li>Payments OUT</li> <li>MDP submission timelines</li> </ul>                                 |
| 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: <ul style="list-style-type: none"> <li>Indicative (INDIC)</li> <li>Initial (INIT)</li> <li>M4 (M4)</li> <li>M13 (M13)</li> <li>Ad hoc (AH)</li> </ul>   |
| 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 148146: 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>
  </REPORT_DETAIL>
</REPORT>
```

Figure 133132: REPT\_067: Settlement Calendar - Sample

## 6.7.11.20 CAPACITY PAYMENTS BY MARKET

|                                |   |
|--------------------------------|---|
| <i>I-SEM Report Reference:</i> | REPT_069  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | CJ_GP_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Capacity Payments by Market   |
| <i>Audience:</i>               | General Public  |
| <i>Resolution:</i>             | Imbalance Settlement Period   |
| <i>Time Span:</i>              | Daily   |
| <i>Frequency:</i>              | Settlement Day  |
| <i>Report Format:</i>          | XML   |

| Field Name            | Format                  | Description                     |
|-----------------------|-------------------------|---------------------------------|
| REPORT_TYPE           | VARCHAR2(2)             | Identifier for Report (CJ)<br>• |
| 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 149147: 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)<br>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 150148: Capacity Payments by Market 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="2018-07-20T10:00:47+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 134133: REPT 069: Capacity Payments by Market Report - Sample

## 6.7.11.21 CAPACITY PAYMENTS BY UNIT

|                                |   |
|--------------------------------|---|
| <i>I-SEM Report Reference:</i> | REPT_070  |
| <i>Data Source</i>             | CSB Settlement System   |
| <i>Periodicity:</i>            | Daily   |
| <i>File Names:</i>             | CU_GP_ALL_<SettlementDay>_<PublicationDay>_<Market>_<RunType>_<Timestamp> |
| <i>Report Title:</i>           | Capacity Payments by Unit   |
| <i>Audience:</i>               | General Public  |
| <i>Resolution:</i>             | Imbalance Settlement Period   |
| <i>Time Span:</i>              | Daily   |

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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 151449: 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 152450: 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 135434: Capacity Payments by Unit Report - Sample

## 6.7.11.22 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 (MWV)  |
| 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 153451: 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                             |

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|                   |                         |  |
|-------------------|-------------------------|--|
| JURISDICTION NAME | VARCHAR2(3)             | ROI (Republic of Ireland) or NI (Northern Ireland)<br>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 154152: 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"/>
      </DETERMINANT>
    </RESOURCE>
  </REPORT_DETAIL>
</REPORT>
```

Figure 136135: REPT\_074: Make Whole Payments Report - Sample

### 6.7.11.23 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 155153: 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 156154: Cross Border Monthly Capacity Report Summary Field Description

| Field Name | Format | Description |
|------------|--------|-------------|
|------------|--------|-------------|

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|                             |                      |  |
|-----------------------------|----------------------|--|
| 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 157455: 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 MPCSTOT="-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 137436: REPT\_071: Cross Border Monthly Capacity Data Report - Sample

## 6.7.11.24 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   |

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| 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 158456: 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 159457: 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 160458: 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>
    </BILL_PERIOD>
  </REPORT_DETAIL>
</REPORT>

```

Figure 138437: REPT\_072: Cross Border Weekly Energy Data Report – Sample

## 6.7.11.25 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   |
| 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)    |
| SETTLEMENT_DATE       | DATE (YYYY-MM-DD)       | Settlement Date              |

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Table 161459: 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 162460: Metered Volumes by Jurisdiction Report

```
<?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 139438: 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   |
| CAOPO       | REPT_043, REPT_055, REPT_056   |
| CCA         | REPT_043   |
| CCBDUC      | REPT_043   |
| CCBDUE      | REPT_043   |
| CCC         | REPT_043   |
| CCP         | REPT_043, REPT_059, REPT_060, REPT_069 (by jurisdiction), REPT_070 (by unit) |
| CCURL       | REPT_043, REPT_055, REPT_056   |
| CDIFFCDA    | REPT_043, REPT_055, REPT_056, REPT_059, REPT_060                             |
| CDIFFCNP    | REPT_043, REPT_055, REPT_056, REPT_059, REPT_060                             |
| CDIFFCWD    | REPT_043, REPT_055, REPT_056, REPT_059, REPT_060                             |
| CDIFFPDA    | REPT_043,  |
| CDIFFPID    | REPT_043   |
| CDIFFPIMB   | REPT_043,  |
| CDISCOUNT   | REPT_043, REPT_055, REPT_056   |
| CFC         | REPT_043, REPT_055, REPT_056, REPT_074                                       |
| CIMB        | REPT_043, REPT_055, REPT_056,  |
| CIMP        | REPT_043,  |
| CINTEREST   | REPT_043,  |
| CMO         | REPT_043, REPT_055, REPT_056, REPT_074                                       |
| CMOAU       | REPT_043   |
| CMOAV       | REPT_043   |
| CPREMIUM    | REPT_043, REPT_055, REPT_056   |
| CREIMDIFFP  | REPT_043,  |
| CREV        | REPT_043,  |
| CSHORTDIFFP | REPT_043   |
| CSOCDIFFP   | REPT_043,  |
| CTEST       | REPT_043, REPT_055, REPT_056   |
| CUNIMB      | REPT_043, REPT_055, REPT_056   |
| CVMO        | REPT_043   |

Table 163161: 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                     |
| CDIFFCNP3        | REPT_044, REPT_057, REPT_058 |
| CDIFFCNP4        | REPT_044, REPT_057, REPT_058 |
| CDIFFCTOT        | REPT_059, REPT_060           |
| CDIFFCTWD        | REPT_044, REPT_057, REPT_058 |
| 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 |
| CSLLB            | REPT_044, REPT_057, REPT_058 |
| CSU              | REPT_044, REPT_074           |
| CSUR             | REPT_044, REPT_074           |
| Eff FX Rate      | REPT_057, REPT_058           |
| 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 |
| 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 |
| PIMB             | REPT_044                     |
| PIMP             | REPT_044                     |
| PMO              | REPT_044                     |
| PREV             | REPT_044                     |
| PSTR             | REPT_044                     |
| PTDA             | REPT_044                     |
| PTESTTARIFF      | REPT_044                     |
| PTID             | REPT_044                     |
| qAA              | REPT_044                     |
| QAB              | REPT_044                     |
| QABBIAS          | REPT_044, REPT_057, REPT_058 |
| QABBPO           | REPT_044, REPT_057, REPT_058 |
| QABCURL          | REPT_044, REPT_057, REPT_058 |
| QABNF            | REPT_044, REPT_057, REPT_058 |

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|               |  |
|---------------|--|
| QABOPO        | REPT_044, REPT_057, REPT_058                   |
| QABTOTO       | REPT_044, REPT_057, REPT_058                   |
| QABUNDEL      | REPT_044, REPT_057, REPT_058                   |
| QABUNDELOTOL  | REPT_044, REPT_057, REPT_058                   |
| QAO           | REPT_044                                       |
| QAOBIAS       | REPT_044, REPT_057, REPT_058                   |
| QAOOPO        | REPT_044, REPT_057, REPT_058                   |
| QAOTOTO       | REPT_044, REPT_057, REPT_058                   |
| QAOUNDEL      | REPT_044, REPT_057, REPT_058                   |
| QAOUNDELOTOL  | REPT_044, REPT_057, REPT_058                   |
| QBIAS         | REPT_057, REPT_058                             |
| qC            | REPT_044, REPT_061, REPT_062                   |
| qCMAMAXI      | REPT_044                                       |
| qCMAMAXILF    | REPT_044                                       |
| QCNET         | REPT_044                                       |
| QCOB          | REPT_044, REPT_057, REPT_058                   |
| QD            | REPT_044                                       |
| QDA           | REPT_044                                       |
| QDIFFCDA      | REPT_044                                       |
| QDIFFCNP      | REPT_044, REPT_057, REPT_058                   |
| QDIFFCSS      | REPT_044                                       |
| QDIFFCTWD     | REPT_044, REPT_057, REPT_058                   |
| QDIFFDA       | REPT_044, REPT_057, REPT_058                   |
| 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                   |
| qFAQ          | REPT_057, REPT_058                             |
| qLIMENG       | REPT_065                                       |
| QM            | REPT_063, REPT_064 (GU, DSU, IU only - public) |
| QMDIFFCDA     | REPT_044 (GU, DAU, IU, SU - private)           |
| QMDIFFCWD     | REPT_044                                       |
| QTDA          | REPT_044                                       |
| QTID          | REPT_044                                       |
| QUNDEL        | REPT_057, REPT_058                             |
| QUNDELOTOL    | REPT_044, REPT_057, REPT_058                   |
| TOLOG         | REPT_044, REPT_065                             |
| TOLUG         | REPT_044, REPT_065                             |
| VATCP         | REPT_071                                       |
| VATCS         | REPT_071                                       |
| VATEP         | REPT_072                                       |
| VATES         | REPT_072                                       |

Table 164162: 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                     | MARKET           | 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           | BALIMB_FINANCIAL | N/A              |
| REPT_057, REPT_058           | BALIMB_INFO      | N/A              |

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| Report ID          | Report Type           | Report Sub-Type |
|--------------------|-----------------------|-----------------|
| REPT_059, REPT_060 | CRM_INFO              | N/A             |
| REPT_061, REPT_062 | CRM_FINANCIAL         | N/A             |
| REPT_063, REPT_064 | 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             |