

I-SEM Market Trial

Entry Exit Criteria

Version 1.0

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Glossary of Terms

Acronym/Abbreviation/Term	Definition
AoLR	Agent of Last Resort
BM	Balancing Market
CCC	Coordinated Capacity Calculation
CM	Capacity Market
DAM	Day-Ahead Market
DSU	Demand Side Unit
FTR	Financial Transmission Rights
ICO	Interconnector Owner
IDM	Intra-Day Market
I-SEM	Integrated Single Electricity Market
MDP	Meter Data Provider
MO	Market Operator
NEMO	Nominated Electricity Market Operator
PEMR	Participant Engagement and Market Readiness (TSOs' I-SEM Project workstream)
RAs	Regulatory Authorities
SEMO	Single Electricity Market Operator
SO	System Operator
TSO	Transmission System Operator
TSOs' Market Trial Team	A team within the Participant Engagement and Market Readiness workstream of the TSOs' I-SEM Project.
WEF	Wind Energy Forecast
Central Market Participants -	This refers to the organisations that provide the Central Market Arrangements including EirGrid/SONI (in their various roles including TSO and MO. It also includes contracted service providers including EPEX/ECC), Meter Data Providers (MDPs), Regulatory Authorities and the Interconnector Owners. Note that this may differ slightly from definitions in other documentation;

1. Introduction

In order to have a successful and meaningful operational market trial there needs to be a sufficient number of participants (both central and market). Those participants need to come ready with sufficiently well-developed processes, systems and personnel. The I-SEM Market Trial will not be a test – all IT system testing of MO, TSO and participant systems should have been sufficiently completed before the Trial commences, or at a minimum that functionality tested before it is first used in the Market Trial. Likewise, the I-SEM Trial will not be an experiment – the scenarios used will be standard for a trial of this type. However, although the Trial will provide an opportunity for participants to undertake their own experimentation, its primary purpose is to allow all involved to bed-down their operations in order to ensure that they have the necessary state of readiness in advance of Go-Live in 2018. Furthermore, it will provide a demonstrable statement of readiness of the market overall and therefore serve as a vital input to the Go-Live decision. In order to create the conditions where trialling can be conducted with reasonable prospects for success, it is necessary to specify both Entry and Exit criteria for all key actors in the markets.

This document does not create the Entry and Exit Criteria from first principles. Rather it builds on the work outlined in a number of key documents already published by the I-SEM Central Project including the *I-SEM Market Trial Strategy*ⁱ and *I-SEM Market Trial Plan*ⁱⁱ. Both of these documents included sections describing the Entry and Exit Criteria at a high level. In addition, a number of other documents including the *I-SEM Market Readiness Reporting Strategy*ⁱⁱⁱ and *I-SEM Market Readiness Plan*^{iv} describe how industry-wide readiness is being monitored and reported using self-assessment.

1.1 Intended Audience

This document has been developed to inform the individuals and groups that will be involved in the preparation and coordination of the Market Trial, including:

- Participant project teams;
- Project teams within Central Market Participants and
- Significant Stakeholders such as the Regulatory Authorities.

A draft version of this document was shared with the Market Trial Working Group for review in advance of publication and the members of that Group are thanked for their valuable inputs into reviewing and finalising the final document which is published here.

1.2 Document Structure

The document provides details of the Market Trial Entry and Exit Criteria. The document is structured around the sequence of activities in the Market Trial as follows:

- Entry Criteria;
- Exit Criteria; and
- Relationship with Market Readiness.

2. Entry Criteria

The Market Trial Entry Criteria varies depending on the participant grouping. For the purposes of the I-SEM Market Trial Market the following sets of criteria have been prepared:

- **Market Participant Entry Criteria** which determine whether individual Trial Participants are ready to enter the Trial;
- **Central Market Participant Entry Criteria** which determine whether the Central Market Participants are ready for the Trial to commence;
- **Market Trial Coordination Criteria** which determine whether the processes and arrangements for conducting the execution of the Market Trial, as a whole, are ready for the Trial to commence; and
- **Minimum Participation Criteria** which define the minimum requirements for the type, size, and roles of Trial Participants which must be ready in order that the Market Trial can be started effectively.

2.1 Market Participant Entry Criteria

For the Market Trial to operate successfully, each participant should have reached an adequate level of organisational readiness covering IT systems, business processes and staff training. The following entry criteria need to be achieved to the satisfaction of the Market Participants:

- All IT systems are sufficiently tested to have the confidence necessary to go into Market Trial;
- An IT systems environment has been established for use in Market Trial;
- Business processes and work procedures that will be used by the Market Participant in the Market Trial are sufficiently advanced to be ready for use in the Scripted Stage;
- Commercial arrangements have been established with any service providers/external parties who will participate in, or support, the Market Trial;
- Any necessary support arrangements have been established with internal service providers;
- Training from the Central Project has been completed;
- Staff, who will operate IT systems and business processes in the Market Trial, have been trained and will be available as required throughout the Market Trial;
- Market Participants have registered ^vfor participation in the appropriate markets;
- Market Participants have signed the Market Trial Agreement;
- Market Participants have successfully completed the required Participant Interface Testing (PIT^{vi}) and Communication Channel Quality Testing (CCQT^{vii}).

Ultimately, it is for individual Market Participants to determine their own state of readiness against these criteria. It is a self-assessment and the central programme will not audit or otherwise validate such assessment. However, individual Market Participants will be

required to ensure that their readiness status against each of the Entry Criteria is reflected in the Market Readiness Assessment survey.

In this way, the readiness progress of Market Participants will be included, in aggregate, in the ongoing Market Readiness Assessment process operated by the TSOs' I-SEM Central Project. This will provide the necessary transparency on the readiness of participants overall and provide an early warning of any issues which emerge which might threaten that state of readiness, so that action can be taken. In addition, participants will be asked to provide a 'Ready for Market Trial' readiness statement to confirm that they will meet the above criteria and will be ready to participate in the Trial. This statement would need to be submitted by the 3rd of November 2017.

If a Market Participant has not completely achieved these Entry Criteria by the commencement of the Market Trial, it will be for that participant to make a risk-based decision on whether it is able nevertheless to begin trialling or whether it is necessary to postpone. If the participant determines that it is unable to participate from the start of the Market Trial, it would be hoped that that participant would do everything possible to address the outstanding readiness issues which prevented their participation in order to enter the Trial at the earliest opportunity thereafter. The Market Trial provides a unique, low-risk opportunity to bed down operations prior to Go-live, from which every participant will benefit and should therefore strive to maximise that learning opportunity by being ready. If Market Participants determine that they are not ready to participate from the start of the Market Trial, they should outline the details in their readiness statement.

2.2 Central Market Participant Entry Criteria

For the Market Trial to operate successfully, the Central Market Participants are expected to have achieved the following entry criteria:

- All central market systems are sufficiently tested to have the confidence necessary for Market Trial to commence;
- IT systems environments have been established by the Central Market Participants for use in Market Trial;
- All business processes and working procedures that will be used by the Central Market Participants in the Market Trial have been sufficiently validated and documented (this will include scripts for the Scripted and Unscripted Stages);
- Commercial arrangements have been established with any service providers/external parties who will participate in, or support, the Market Trial;
- Any necessary support arrangements with internal service providers have been arranged;
- Staff, who will operate the Central Market Participants' IT systems and business processes in the Market Trial, have been trained and are available as required throughout the Market Trial; and
- IT Systems have been populated with all the market, participant, and system parameters and data necessary to start the Market Trial. Where necessary, data may be loaded during the Market Trial.

The Central Market Participants will provide a 'Ready for Market Trial' readiness statement to confirm that they have met the above criteria. In addition, the readiness progress of the Central Market Participants will be detailed in the ongoing Market Readiness Assessment

(MRA) reports published by the TSOs' I-SEM Project. There will be at least three MRA surveys (August, September and October) in advance of any decision to proceed with Market Trial.

If a Central Market Participant has not completely achieved these Entry Criteria by the time of the 'Proceed with Market Trial' decision, then they would provide a readiness statement which provides details of their status against each of the Entry Criteria. In this statement, the Central Market Participant would present a proposed plan for their involvement in the Market Trial including details of the remediation actions that they would take to address the areas in which they are not fully ready. The plan would highlight any risks, proposed mitigation measures and any residual impacts that this approach will have on the operation of the Market Trial and in particular on Market Participants. In an extreme scenario where a certain Central Market Participant(s) is not at a sufficient level of readiness then the Market Trial may have to be delayed

2.3 Market Trial Coordination Entry Criteria

For the Market Trial to operate successfully, the TSOs are expected to have achieved the following entry criteria:

- The Market Trial Scope has been published;
- The Market Trial Scenarios have been published;
- The Market Trial Execution Calendar has been published;
- Trial Participants have been briefed on the process and arrangements for the Market Trial;
- Trial data preparation has been completed;
- The Market Trial Team is complete and operational;
- The processes, metrics and tools for co-ordination, tracking and reporting of the Market Trial are ready;
- The necessary rules (TSC, CMC etc.) are ready¹;
- The Market Trial Agreement is available to participants to be signed;
- The Market Trial Guidebook has been completed and distributed to all Trial Participants; and
- The Market Trial Management Tool(s) has been configured with all required information (including defined Market Trial scenarios).

The TSOs' Market Trial Team will consolidate the 'Ready for Market Trial' readiness statements from Trial Participants and from the Central Market Participants and will publish a Market Trial Readiness Report to the appropriate governance body in sufficient time for its 17 November 2017 decision on whether to proceed with the Market Trial.

¹ There may be some deviations however, every effort will be made to reflect the Live Market

2.4 Minimum Participation Entry Criteria

For the Market Trial to operate successfully, a minimum level of participation is required. For the Market Trial to commence, sufficient Trial Participants should have confirmed their readiness to commence the trial so that the Trial has, for example:

- Sufficient coverage across Participant roles²:
 - Dispatchable Generators;
 - Demand Side Units;
 - Assetless Units;
 - Large Suppliers;
 - Small Suppliers;
 - Controllable Generators; and
 - Small renewable generators
- Full involvement of all key entities that provide the Central Market Arrangements;
- Sufficient coverage of unit types (thermal, wind, pumped, storage, etc.);
- Sufficient coverage across the profile of Participants (size and scale of companies); and
- Sufficient generation and demand for each of Republic of Ireland and Northern Ireland.

² No single Market Participant will be allowed to stop Market Trial from proceeding

3. Exit Criteria

Market Trial Exit Criteria are needed to establish whether the Market Trial has been a success or not. The criteria are a checklist of operational metrics which will be tracked during the trial. These criteria will be used as the basis of status reports both during and at the completion of the Market Trial. Note that there are additional aspects which are out of scope for this document which contribute towards the Go-Live Entry Criteria. The Go-Live decision is a matter for the Regulatory Authorities. See *SEM-17-030 I-SEM Readiness, Criteria, Governance and Contingency*.

The I-SEM Central Project will outline the specific metrics as part of its work starting in August 2017, which will be documented in the *I-SEM Participants' Guide*. However the following areas are likely to be covered by the group's work including:

Market Participation Rate: There is a need for a reasonable overall participation rate amongst participants;

Market Segment Participation: Every effort will be made to ensure that all segments will have participated in the trial including:

- Dispatchable Generators;
- Demand Side Units;
- Assetless Units;
- Large Suppliers;
- Small Suppliers;
- Controllable Generators; and
- Small renewable generators

Scripted Phase Scenario Success Levels: An average success score for the Scripted Market Trial;

Unscripted Phase Scenario Weekly Aggregated Success Levels: An average score for the Unscripted Market Trial

Connectivity/Interface Functions: Severe defects raised during the trial are closed out or a workaround is developed.

Market Performance as regards:

- Gate closures across the markets;
- Day-Ahead Market auction execution;
- Market Coupling execution;
- Intra-Day Market auction execution;
- Preliminary results execution;
- Publication of DAM/IDM results;
- IDM/DAM settlement;
- Balancing Market execution;
- Publication of BM results;
- Imbalance Pricing, Settlement and Clearing; and

- Invoicing.

System Operator System Performance as regards:

- Execution of Cross Zonal Capacity Calculations;
- Development of ICRPs;
- Development of Indicative Schedules;
- Use of Security Constrained Unit Commitment tools;
- Use of Security Constrained Economic Dispatch tools;
- Issue of dispatch instructions;
- Tagging and Flagging process; and
- Publication of reports on Website.

Customer Query Management: A query management process will be in place during market trial which will involve email and telephone support during normal business hours providing reasonable service levels such that no significant participant queries are unresolved.

IT Operations: Personnel operating IT procedures and processes will be in place to provide reasonable support during the trial such that no significant IT defects remain.

Back Office Systems in place: Normal back office systems will be in place during the trial to enable front side services to be delivered.

Business Process Performance across all markets as regards:

- Settlement and clearing
- Collateral & Credit Management
- Funds transfer
- Communications around settlement, invoices and transfers
- Rules Management

Market Data: There is a large amount of data that is essential for a successful market trial. At a minimum a high quality flow of the following data will be made available in suitable time and format to support market operations. The data type includes:

- **Financial:** This includes exchange rate data that must be provided to the NEMO
- **Interconnector:** Cross-zonal capacity data and Interconnector Profiles
- **EMS:** Real-time status, Daily Load forecast and average frequency data
- **System Constraints:** This is a manual process by the TSO
- **Wind Energy Forecast:** This is a 6 hourly forecast for all wind units
- **Outages:** This is a flow of information about line outages etc.
- **System Service:** This includes reserve capability and interruption load information
- **Participant:** Technical Offer Data, Commercial Offer Data, Bids and Offers and Physical Notifications

Metered Data Provision

- EirGrid data

- SONI data
- MRSO data
- NIE data

These Market Trial exit criteria should not be confused with the overall 'market readiness criteria' for Go-live (which will be based on a more extensive consideration of Go-live risks and issues). While the outcomes of the Market Trial will certainly form an input to the Go-live decision-making process, failure to completely achieve Market Trial exit criteria would not necessarily mean that live market operations could not commence. The Go-live decision-making process has been set out in *SEM17-030 I-SEM Readiness – Criteria, Governance and Contingency* published by the RAs.

4. Relationship with Market Readiness Assessment

The *I-SEM Market Readiness Assessment* (MRA) reporting process has been developed to provide an overview of the readiness status of both central project and market participants to fulfil their roles in the new market arrangements. By providing MRA participants with the opportunity to update a detailed survey on a monthly basis, the resulting report is both comprehensive and timely. However, the data inputted is based on their own assessment of their readiness status in accordance with a defined assessment framework. So far the engagement has been good, with a peak of over 99% of the current market by turnover taking part as well as all central parties e.g. System Operators, Meter Data Providers etc.

Overall readiness is assessed on the basis of the status of a number of factors including: the regulatory and legal framework; staffing; business processes; systems; information systems infrastructure and data. One significant element that is tracked in the MRA relates to Market Trial Planning and Decision Making. Figure 1 shows how the planning and decision making for Market Trial is tracked for each market. This reflects the fact that certain market events commence at different times e.g. the Capacity Market Auction commences in December 2017.

Overall Status per Participant	Balancing Market & Imbalance Settlement	Day Ahead & Intraday Markets	Capacity Market	FTR Market
Market Trial: Planning and Decision Making				

The Market Trial Entry Criteria which were described earlier in this document are closely linked to the [Readiness Criteria](#)³ and the MRA reports will inform the decision making processes for the start of trialling. Note that while the reports will inform the decision there is scope for additional inputs to the final decision which will be taken in November.

³ The I-SEM Readiness Criteria were published in January 2017. See <http://www.sem-o.com/ISEM/General/I-SEM%20Readiness%20Metrics.pdf>

5. References

ⁱ *Market Trial Strategy*, <http://www.sem-o.com/ISEM/General/Market%20Trial%20Strategy.pdf>

ⁱⁱ *Market Trial Plan*, <http://www.sem-o.com/ISEM/General/Market%20Trial%20Plan.pdf>

ⁱⁱⁱ *Market Readiness Strategy*, <http://www.sem-o.com/ISEM/General/Market%20Readiness%20Reporting%20Strategy.pdf>

^{iv} *Market Readiness Plan*, <http://www.sem-o.com/ISEM/General/Market%20Readiness%20Reporting%20Plan.pdf>

^v *I-SEM Transitional Registration Plan*, <http://www.sem-o.com/ISEM/General/Transitional%20Registration%20Plan.pdf>

^{vi} *I-SEM Programme Participant Interface Testing Approach*, [http://www.sem-o.com/ISEM/General/I-SEM%20Programme%20Participant%20Interface%20Testing%20\(PIT\)%20Approach%20V1.0.pdf](http://www.sem-o.com/ISEM/General/I-SEM%20Programme%20Participant%20Interface%20Testing%20(PIT)%20Approach%20V1.0.pdf)

^{vii} *I-SEM CCQT Market Participant Guide*, <http://www.sem-o.com/ISEM/General/I-SEM%20CCQT%20Market%20Participant%20Guide.pdf>