

**SEM-15-078a**

**Appendix 1: Draft Terms of Reference for Working Group**

Draft Terms of  
Reference for I-  
SEM Market  
Rules Working  
Group

October 7

2015

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This document sets out the proposed Terms of Reference for the Working Group required to develop the detailed legal market rules for the I-SEM.

I-SEM Detailed  
Market Design

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## BACKGROUND

The all-island Single Electricity Market (SEM) is regulated jointly by the Commission for Energy Regulation (CER) in Dublin and the Northern Ireland Authority for Utility Regulation (or Utility Regulator) in Belfast, known as the Regulatory Authorities or RAs. The decision-making body which governs the market is the SEM Committee (SEMC), consisting of the CER, the Utility Regulator as well as an independent member (who also has a deputy), with each entity having one vote.

The SEM is to undergo radical transformation arising from changes to European legislation designed to create a single wholesale electricity market across Europe. The new market design developed by the SEM Committee will result in what has been named an Integrated SEM (I-SEM) which will more fully facilitate coupling with the electricity market in the rest of Europe. Following extensive public consultation, the High Level Design for the new I-SEM was published by the RAs on 17 September 2014 (SEM-14-085a) completing Phase I and Phase II of the Market Integration Project.

Since then, the I-SEM project has entered its final phase, Phase 3, namely the detailed design and implementation work needed to go-live with the new market anticipated for Q4 2017. Phase 3 includes various detailed design workstreams led by RAs, systems developed by the Transmission System Operators (TSOs – EirGrid and SONI) and market participant readiness testing.

The “Detailed Market Design and Implementation” phase of the I-SEM project is now well underway. The RAs and Transmission System Operators (TSOs) in Ireland (EirGrid) and Northern Ireland (SONI) have been working collaboratively to ensure development of a robust and achievable project timeline with alignment of key workstreams, led respectively by the RAs or TSOs.

The ETA Building Blocks and Markets detailed design decision was published by the SEM Regulatory Authorities on 11 September 2015. This decision paper sets out the detailed design of many key aspects of the I-SEM, particularly in relation to the operation of the Balancing Market and the power system as well as rules for imbalance settlement. This decision paper and others to be published will need to be transitioned into a set of legal market rules that will be delivered through a series of Working Group meetings.

## OBJECTIVES

The objective of the I-SEM Rules Working Group is to discuss in detail the elements of the SEMC decision papers and to collaborate on the detailed legal drafting of I-SEM market rules to give effect to those requirements.

The decisions as set out in the SEMC decision papers need to be transposed into a binding set of market rules which require extensive input and review from the Working Group.

The I-SEM market rules should also reflect the decisions included in the following SEMC decision documents:

- I-SEM SEMC Decision on High Level Design (SEM-14-085a)

- I-SEM ETA Markets Building Blocks Decision Papers (SEM-15-064)
- I-SEM ETA Markets Decision Paper (SEM-15-065)
- I-SEM Aggregator of Last Resort Decision Paper (SEM-15-063)
- Upcoming I-SEM CRM Decision Paper 1 and Decision Paper 2

As well as covering the operation of the Balancing Market in the I-SEM, these relate to settlement of balancing actions, imbalance settlement and settlement relating to the Capacity Remuneration Mechanism.

Rules will also need to be developed for participation in the day-ahead and intraday markets, including settlement of these. It should be expected that any designated NEMO will operate a dedicated set of market rules for their platforms and a separate set of I-SEM market rules should not create any inconsistencies in this respect. Equally, it is expected that the rules for the auction of reliability options and Financial Transmission Rights will be handled through separate market rules. Notwithstanding this, there is likely to be some cross over regarding information and data flows between the revised Trading and Settlement Code and the NEMO, CRM Auction and FTR rules.

With respect to Financial Transmission Rights, this includes settlement rules relating to these.

## SCOPE

The I-SEM Rules Working Group will be responsible for collaborating on and reviewing the legal drafting of the Market Rules and Agreed Procedures for the I-SEM.

While the development on market rules for the I-SEM will not be progressed as a modification to the current Trading & Settlement Code (the Code), it is proposed that the existing market rules can be used as an appropriate starting point for the development of the new rules. A review of the current Code will highlight elements that are required for the I-SEM design and market rules but which did not need to be addressed in the SEMC decisions published thus far. This review will include all relevant sections of the Code, including appendices. This will allow the I-SEM Rules Working Group to consider all the elements that make up the current SEM rules to ensure that each is being represented in the I-SEM rules or is being further developed as new text. This approach, in conjunction with a review of the SEMC decisions, will ensure that all elements of the I-SEM will be captured.

The I-SEM Rules project team (made up of the RAs, TSOs and Market Operator) will also develop proposals/ position papers in relation to the detailed implementation of the SEMC decisions and relevant sections of the market rules. The I-SEM Rules Working Group will review the proposals/ position papers circulated by the I-SEM Rules project team. This will provide Plain English Text to proposed market rules. This can be represented in the form of new text but also identify the detailed impact upon the existing Code and the changes that may need to be applied to develop new rules for the I-SEM. Also, this process will identify any details that are missing or uncertain and any policy issues that may be unclear. The review of the current Code will highlight impacts including the Trading and Settlement Code, the Glossary, the Appendices and all the Agreed Procedures.

The areas to be included in the scope of the I-SEM Rules Working Group during the development of the market rules will include:

- Ex-ante markets (setting out the requirements on participants to trade in ex-ante markets through NEMO(s) designated by the SEM RAs);
- Real time activities;
- Balancing Market;
- Capacity Remuneration Mechanism (excepting the rules for the RO auction); and
- Settlement.

Appendix 1 to this Terms of Reference includes a high level review of the current Code noting how sections may be used as the starting point for the development of new market rules for the I-SEM.

The agreed project timeline for implementation of the I-SEM requires that any IT systems required for the new market arrangements must be procured in Q4 2015 while the timeline for development and agreement of the market rules will be Q4 2016. Given the timelines for implementation of the I-SEM and the outstanding design issues<sup>1</sup> which must be resolved for system implementation, it is proposed that these open items are addressed first by the Working Group.

As the solution for each topic/ issue is agreed, this shall not be revisited again by the Working Group unless a material impact can be demonstrated when considering a later topic/ issue. This means that as issues are agreed, the documented result will be a baselined document placed under change control on the I-SEM project. This will refer to final agreed Plain English Texts and legal market rules that are agreed through the process. Further details on the outputs of this process are set out in the 'Deliverables' and 'Work Breakdown Structure' sections of this document. Any changes required to baselined documentation will be managed through the I-SEM project change control process. This step is required as system implementation may have already commenced. In this way, the I-SEM Rules Working Group agrees not to revisit resolved issues, unless later work exposes an inconsistency, and commits to finalising solutions according to the proposed schedule.

## CONSTRAINTS

With the objective of the I-SEM Rules Working Group being to implement the SEMC published decisions in relation to the I-SEM, the Working Group will not be permitted to re-open any previously confirmed SEMC decisions.

With the publication of key decisions in September 2015 and the implementation required by Q4 2017, the development of Market Rules and Agreed Procedures for the I-SEM must be completed over the course of 14 months. RA, SEMO, TSO and Market Participant resources will need to be available to support this process; however, a number of other major workstreams will also be very active across this timeframe and is likely to call on the time of many of the same people. These include but are not limited to:

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<sup>1</sup> The SEMC decisions on I-SEM Markets, I-SEM Building Blocks and AOLR include 46 acknowledged open design issues

- Additional RA consultations on the Capacity Remuneration Mechanism;
- Additional RA consultations on Market Power issues;
- Additional RA consultations with respect to Forwards and Liquidity issues;
- TSO system implementation of the market design;
- Implementation of NEMO solutions;
- Set up of Business Liaison Groups to develop operational procedures between Participants and the TSOs and Market Operator(s);
- Set up of Technical Liaison Groups to develop IT communications and procedures between Participants and the TSOs and Market Operator(s) ; and
- Set up of Meter Data Provider working groups to develop IT communications, procedures, operational procedures and rule changes required for the I-SEM.

Given the number of outstanding design issues required for system implementation, it is advised that these are addressed and first. These include, but are not limited to, open issues with relation to:

- Imbalance pricing;
- Imbalance settlement; and
- Dispatch operations (including items relating to physical notifications).

A comprehensive list of open design issues can be found in the appendices to the SEMC decision papers. The priority of design issues and how these will be handled is proposed in the schedule for the I-SEM Rules Working Group meetings.

## ASSUMPTIONS

It is expected that any designated NEMO(s) will operate a dedicated set of market rules for their platforms and the legal version of the I-SEM market rules should not create any inconsistencies in this respect.

The rules for the auction of reliability options and Financial Transmission Rights will be handled through separate market rules. With respect to Financial Transmission Rights, this includes settlement rules relating to these.

## ROLES

The main stakeholders are: Market Participants (which may take account of future participants), the Regulatory Authorities in Ireland and Northern Ireland (who will chair each of the Working Group meetings), System Operators, Meter Data Providers, Interconnector Administrators, Market Operator(s), Government Departments, and Interested Parties. Interested Parties refers to any groups that may represent sections of industry, academia, Participant groups (such as EAI, IWEA, NIRIG) that are neither active participants in the Single Electricity Market nor likely to register as participants for the I-SEM.

The table below attempts to identify the parties responsible and accountable for deliverables. The I-SEM Rules Project Team noted below is the joint implementation team for the I-SEM project made up of the SEM RAs, the TSOs and SEMO. The Working Group meetings will be chaired by the SEM RAs.

	Responsible	Accountable to:	Consulted	Informed
<b>Organising &amp; Running Working Group meetings</b>	Project Team	RAs (Chair)	Working Group Members	Interested Parties
<b>Market Rules Drafting</b>	TSOs, SEMO leading drafting, with input from RAs	RAs	Working Group Members	Interested Parties
<b>Plain English Guides</b>	Project Team	-	Working Group Members	Interested Parties
<b>Working Group Materials</b>	Project Team	-	Working Group Members	Participants, Interested Parties
<b>Working Group Reports</b>	Project Team	-	Working Group Members	Interested Parties
<b>Final Consolidated Market Rules</b>	TSOs, SEMO leading drafting with input from the RAs	RAs	Working Group Members	Interested Parties
<b>Market Rules Approval</b>	RAs	SEMC	Working Group Members	Participants, Members
<b>Agreed Procedure Drafting</b>	Project Team	-	Working Group Members	RAs, Interested Parties
<b>Agreed Procedure Approval</b>	RAs	SEMC	Working Group Members	Interested Parties

It is expected that (excepting any limitations of space) a person from any organisation who wishes to attend a Working Group meeting will be enabled to do so. The RAs are limiting nominations for membership of the Working Group to two people; this will include a nominated Member and an Alternative (to attend a Working Group meeting in place of the Member if and when required). The key Members of the Working Group will need the following:

- Sufficient time free of other commitments in respect of each Working Group meeting to ensure circulated materials are appropriately reviewed and members are able to provide constructive input to the process;
- Wide experience of the operation of the SEM;
- Experience and knowledge of the I-SEM consultations and decisions;
- Personal commitment to the task.

The RAs will chair each Working Group meeting and SEMO will provide support and drafting as part of the EirGrid/SONI “European Market Integration Project”.

## DELIVERABLES

The final deliverable for this product is a completed set of market rules for the I-SEM. This will be made up of a detailed text for legal review and approval submitted to the SEMC. Other deliverables are noted below:

- Market Rules Drafts;
- Agreed Procedure Drafts;
- Plain English Guides;
- Working Group Materials
- Working Group Reports;
- Initially legal drafting of the Market Rules elements to give effect to the SEMC decisions;
- Finally a specification of text for the new market rules;
- A list of the Glossary definitions;
- A list and specification for all variables to be included in the Glossary;
- A list and scope for the Agreed Procedures needed for the I-SEM;
- Details of any lack of clarity, conflicts in the SEMC decisions;
- Details of any policy issues discovered;
- A report of any unresolved differences of view between members of the working group;
- An outline report of progress after each meeting.

Documentation, such as Plain English Guides, legal drafting of Market Rules, etc., will be baselined on agreement of the members of the Working Group. Baselined documentation will be subject to the change control process of the I-SEM project.

## FINANCIAL

Legal advice on the robustness of the developed market rules drafting will be required by members of the Working Groups, specifically the TSOs who have been charged with drafting the market rules (see section 6 of the published ‘Agreed Approach Document’<sup>2</sup>) and the RAs who will ultimately approve the new set of market rules to ensure they align with policy intended in SEMC decisions. Market participants are also expected to carry out their own legal review of the drafting.

<sup>2</sup> [http://www.allislandproject.org/en/wholesale\\_overview.aspx?article=c5eed35-6397-4e31-bf82-594f7b05a33c&mode=author](http://www.allislandproject.org/en/wholesale_overview.aspx?article=c5eed35-6397-4e31-bf82-594f7b05a33c&mode=author)



## WORK BREAKDOWN STRUCTURE

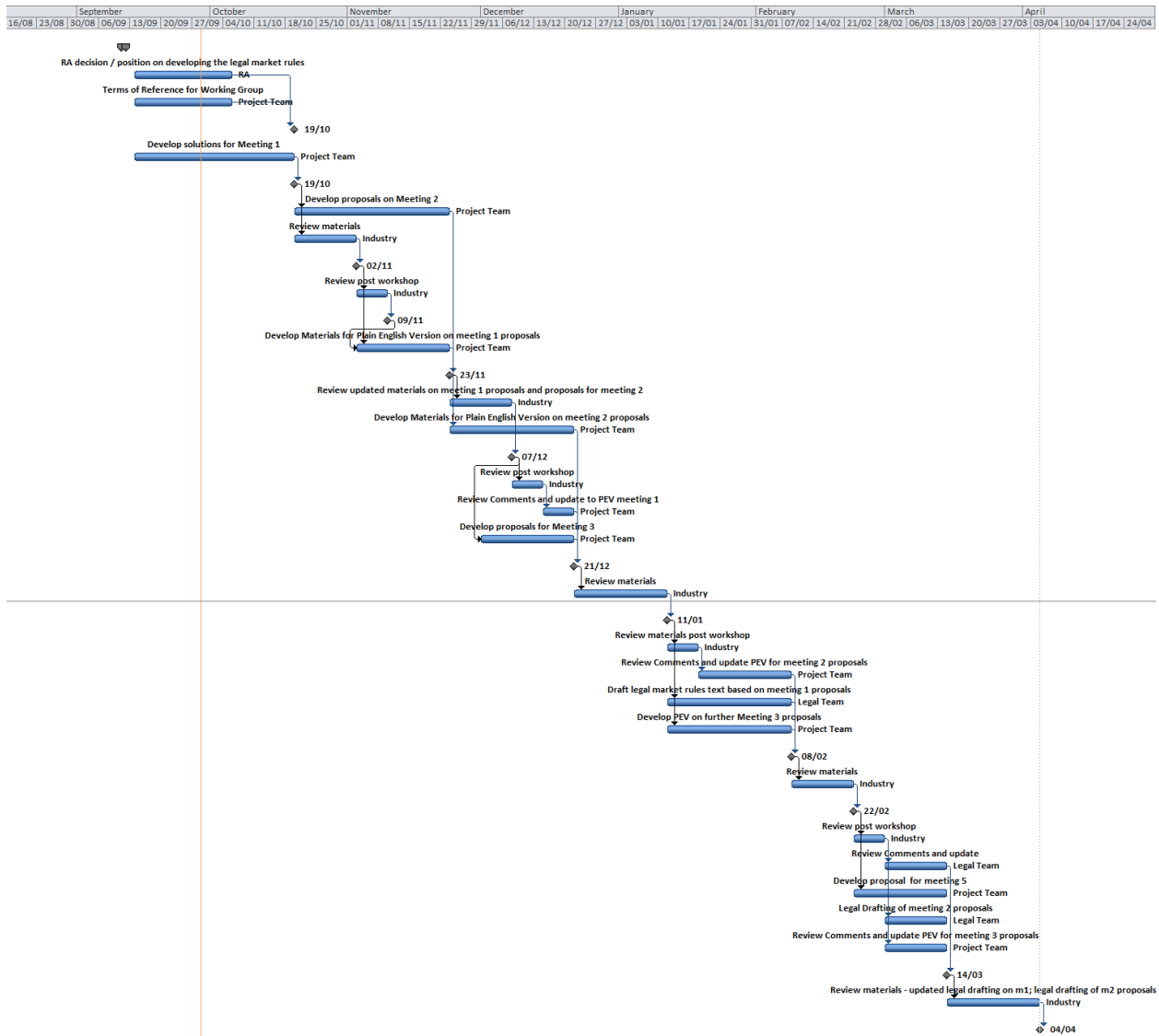
This section proposes how the schedule of work to develop the legal market rules for the I-SEM is carried out.

This proposes a five stage process whereby issues are developed and resolved and legal drafting of the revised market rules is completed. In summary, these stages are:

- Circulation of proposals / positions papers;
- Development of Plain English versions (PEV);
- Updated PEV for sign off;
- Legal drafting; and
- Finalised legal drafting for sign off.

Based on this approach, issues can be developed over the course of five I-SEM Rules Working Group meetings. To allow for appropriate review time, this will result in a five week lag between Working Group meetings. To ensure efficiency, the Project Team will develop proposals on other issues while participant review is under way. This is demonstrated in the 'Schedule' section where each Working Group meeting can be reviewing a combination of an initial proposal, a PEV, an updated PEV for sign-off, initial legal drafting or finalised legal drafting. After sign-off/ agreement on finalised PEV and finalised legal drafting, these documents are baselined and will be subject to the I-SEM project's change control mechanisms.

This diagram below represents the process of setting up a Working Group for legal market rules for a specific issue. This is demonstrative only and is not intended to represent the actual schedule of work but sets out the steps that would be involved.



The steps involved would include:

- 1) Develop a terms of reference for a Working Group (to be discussed and finalised with Working Group Members and Alternatives at ‘meeting 0’, for subsequent approval by the RAs in early November);
- 2) Schedule and arrange Working Group meeting 1;
- 3) Develop and circulate materials for issues to be covered in Working Group meeting 1. This will involve documents in MS Word and PowerPoint presentations;
- 4) Materials are circulated to Working Group members for review two weeks before each meeting;
- 5) After the circulation of materials, Working Group members should review and prepare for the Working Group meeting;

- 6) The Project Team can prepare new materials for the second working group meeting while this review is happening;
- 7) The issue for the first meeting is discussed and solutions are proposed;
- 8) After each meeting, Working Group members have an additional week to submit comments to the Project Team;
- 9) The Project Team will, based on feedback from participants from the Working Group meeting and formal submissions, develop materials for a Plain English Version of the market rules for the relevant issue. This will involve documents in MS Word and PowerPoint presentations for Working Group meeting 2;
- 10) Schedule and arrange Working Group meeting 2;
- 11) Materials circulated for Working Group meeting 2 will be issued two weeks in advance and will include the Plain English Version (PEV) of proposals discussed at meeting 1 and new proposals for meeting 2.
- 12) The second meeting should permit Working Group members to present / provide comment, alternate wording, etc. The Working Group will not have the scope to amend decisions already taken by the SEMC but the group should raise any areas of inconsistency or uncertainty that they identify;
- 13) Comments from the Working Group members and outputs of the meeting 2 are collated and the PEV is updated to represent the changes;
- 14) Updated PEV is issued to members for agreement before Working Group meeting 3;
- 15) Schedule and arrange Working Group meeting 3;
- 16) At this meeting, the members should provide their agreement to progress with the development of legal rules based on the agreed PEV. The agreed PEV documents are now subject to the I-SEM project's change control process;
- 17) The drafting team will develop a set of legal market rules based on the agreed PEV proposals;
- 18) This is issued to Working Group members in advance of Working Group meeting 4;
- 19) At the fourth meeting, the Working Group members can present / provide comment, alternate wording, etc.;
- 20) Comments from the Working Group members and outputs of the meeting 4 are collated and the legal drafting is updated to represent the changes;
- 21) Updated legal text is issued to members for approval before Working Group meeting 5;
- 22) Schedule and arrange Working Group meeting 5;
- 23) At this meeting, the members should provide their approval of the updated / finalised legal text. Post approval / agreement of the members of the Working Group, the finalised legal text will be subject to the I-SEM project's change control process;
- 24) When all elements of the market rules are complete, a consolidated version of the market rules and Agreed Procedures for the I-SEM will be presented to the SEM Committee for review and approval.

Active input for market participants is essential for the process and, as such, participants need to be mindful of the expectations on them. As part of this process, participants will be issued with materials

for review and consideration two weeks in advance of each Working Group meeting. Participants are expected to carry out this review and attend the Working Group meeting with comments and questions prepared. Participants may wish to make their own presentations on topics / issues under development and this will be facilitated as appropriate. After each Working Group meeting, participants will be afforded a further five working days for review before comments must be submitted to the I-SEM Project Team. It may not be possible to consider comments submitted after the deadlines set out in the detailed work schedule in further development work.

There will be need of a reporting process from the Working Group meetings back to the SEM Committee to appraise of progress or raise issues where the group has been unable to reach agreement.

## SCHEDULE

The following table proposes a schedule of meetings based around the work breakdown structure set out above. This is based on the assumptions and constraints discussed previously, including addressing open issues that need to be resolved for IT system procurement being addressed earlier in the process. It should be noted that the development of many of these issues supports not just procurement of central market systems but of participant systems also.

Meeting Schedule	Rule set in development	Plain English Versions	Plain English Versions updated	Legal Drafting	Finalised Legal Drafting
M 0	The initial meeting of the Working Group will be “kick off” meeting at which this Terms of Reference will be subject to discussion, comment and agreement. The working arrangements for the Working Group will be set out and expanded upon, including presentation of a detailed work breakdown structure, developed in MS Project. This meeting will also set out the communication channels for participants to interact with the I-SEM Project Team. This will include the approach for submission of queries and an overview of the change control process. Impact assessment will be part of any change control process and this includes impact assessment by participants on their own implementation projects or other interests as well as the impacts on the implementation of the market systems.				
M 1	Imbalance pricing; Calculation of imbalance payments & charges; Dispatch operations				
M 2	Curtailement	Imbalance pricing; Calculation of imbalance payments & charges; Dispatch operations			
M 3	CRM – payment and charging arrangements	Curtailement	Imbalance pricing; Calculation of imbalance payments & charges;		

Meeting Schedule	Rule set in development	Plain English Versions	Plain English Versions updated	Legal Drafting	Finalised Legal Drafting
			Dispatch operations		
<b>M 4</b>		CRM - payment and charging arrangements	Curtailment	Imbalance pricing; Calculation of imbalance payments & charges; Dispatch operations	
<b>M 5</b>	Remaining issues on pricing and calculations		CRM - payment and charging arrangements	Curtailment	Imbalance pricing; Calculation of imbalance payments & charges; Dispatch operations
<b>M 6</b>	Registration; Transitional arrangements;	Remaining issues on pricing and calculations		CRM - payment and charging arrangements	Curtailment
<b>M 7</b>		Registration; Transitional arrangements; Settlement arrangements for BM;	Remaining issues on pricing and calculations		CRM - payment and charging arrangements
<b>M 8</b>			Registration; Transitional arrangements; Settlement arrangements for BM;	Remaining issues on pricing and calculations	
<b>M 9</b>				Registration; Transitional arrangements; Settlement arrangements for BM;	Remaining on pricing and calculations
<b>M 10</b>					Registration; Transitional arrangements; Settlement arrangements for BM;

As noted in the Work Breakdown Structure section, meetings can be scheduled every five weeks. Variances to this relate to Christmas holidays, Easter holidays and allowing additional review time for Working Group meetings with significant agendas.

The topics noted above are expanded upon below:

Topic	Further Explanation
Imbalance pricing	Application of flagging and tagging results; Partial flagging; Setting the marginal price based on dispatch actions; Fallback rules where all actions taken are tagged; Setting scarcity prices; Application of start costs in imbalance pricing;
Calculation of imbalance payments & charges	Detailed algebra; Additional detailed algebra for approach to trading in opposite direction where PN changes allowed but preventing any increase in BOA premium as a result; Information Imbalance Charge; Net settlement including treatment of trading sites; Application of tolerances in algebra; Treatment of Assetless Traders, DSU and dispatchable demand; Mechanism for ensuring units don't over recover start costs; Rules for multiple BOAs in the same imbalance settlement period (ISP); Functionality to recover revenue shortfall from ISP vs ex-ante period; ISP duration and how ex-ante trades are compared against short period; Treatment of constrained priority dispatch, including non-renewable;
Dispatch operations	Framework for TSO non-energy actions; Price floor on decremental bids from demand side units; Accommodate different operating modes in the dispatch; Transitional arrangements including earlier gate closure; Implementing a substitutive approach for PN submission; Detail of participant requirements for PN submission; Requirements for feasible PN submission; Granularity of PN submission; Dispatch of special units, including energy limited generators, storage facilities, demand side units;
Curtailment	Rules for post processing framework that allows for either the use of actual trades and prices, including source of data; Calculation of reference price for use in post processing if use of actual trades and prices is not developed;
CRM - payment and charging arrangements	Algebra for payments to providers of reliability options; Algebra for charges on suppliers to fund payments of reliability options; Algebra for calculation of difference payments when reference price exceeds strike price; Calculation of reference price if hybrid solution selected;
Remaining issues on pricing and calculations	Calculation of availability; Application of loss factors; Interconnector error units; Units under test; Classification of units;

Topic	Further Explanation
Registration	Entity types in the I-SEM (e.g. – generator unit, supplier unit, assetless trader, etc.); Business structure for settlement and collateral (e.g. – Party / Participant / Account / Trading Unit, etc.) Data requirements for the I-SEM; Registration process (including DAM/IDM/BM/CRM); Management of Trading Day / Settlement Day issues; Interaction with NEMOs, TSOs, Meter Data Providers, Interconnector Owners.
Transitional arrangements	Interim arrangements for dispatch operations that may apply; Rules for data submission relating to SEM scheduled resettlement; Rules for data query & dispute relating to SEM repricing; Collateral requirements for I-SEM go-live; Timing of data submissions for I-SEM while SEM rules still live; Transition from SEM CPM to I-SEM CRM arrangements; Transition of trading day from “6AM to 6AM” over to “11PM to 11PM”;
Settlement arrangements for BM	Invoice arrangements (including self-billing); Collateral arrangements (potentially including multiple trading arrangements); TSO collateral arrangements (for BM actions, for cross border actions); Forms of collateral.

The schedule represented above represents a proposal of how to progress the development of the market rules for the I-SEM. As the detailed schedule is developed, it may be considered that the agenda for some Working Group meetings is such that this may require the Working Group to convene over more than one day.

## RISKS

The work of the I-SEM Rules Working Group will require considerable commitment from the members. If this is not provided, progress will be severely impacted.

To facilitate the implementation of the I-SEM arrangements by Q4 2017, key elements of the design will need to be resolved up front to support the procurement of IT systems required for the I-SEM. If this approach cannot be accommodated this will have impacts on the cost and / or schedule of the delivery of any central market systems required for the I-SEM.

## APPENDIX 1 – HIGH LEVEL REVIEW OF THE CURRENT CODE

Taking the existing Code as an appropriate starting point for the new market rules, the following outlines relevant sections impacted by the I-SEM noting potential changes as well as new text that would be required.

For the avoidance of doubt, where it is noted that sections of the current Code could be adapted for the I-SEM, this should not be taken to mean the actual Code will be adapted but that the text of the current Code with small changes will form the basis of the new market rules for the I-SEM.

#### **Section 4 – Pricing**

**Offer Structures** – the new market rules will be drafted reflect the form of offers from the detailed design decision. This includes the timing of trading windows and gate window opening and closure for the submission of balancing bids, exact format of commercial offer data based in incremental and decremental bids / offers in place of the Price Quantity pair structure of the SEM, and other details as required.

**Forecast data by the System Operators** – sections of the current Code may be adapted to recognise changes to the timing and granularity of forecast data provided and published by the TSOs.

**Submission of Physical Notifications** – this new section will be needed to provide rules on the timing and granularity of Physical Notification submission, including details on how notifications are related to ex-ante contract volumes, obligations on which units must submit notifications, and validation rules applied by the TSOs.

**Trading Boundary and Treatment of Losses** – sections of the current Code may be adapted to reflect SEMC decisions with respect to how losses are to be applied to bid / offer submissions and Physical Notifications.

**Availability, Minimum Stable Generation and Minimum Output** – new text may be required reflecting changes to the application of availability calculation for Generator Units with Non-Firm Access for the I-SEM. This will also need to consider how availability calculations on providers of Reliability Options are factored in to the determination of their payment volumes.

**Dispatch Quantity** – sections of the current Code may be adapted to reflect any changes required in the determination of instruction profiling. This may include adapting Appendix O of the T&SC where the detailed algorithm is set out. This may explore expanding the range of technical characteristics included in the process; however, it is likely that the existing suite of instruction types will endure for the I-SEM

**Pricing Algorithm** – the new arrangement for the I-SEM will mean that the single price determination process will need to be replaced with rule sets that cover price determination from day-ahead, intraday and balancing timeframe. This section of the new market rules will reflect how the prices are determined for the balancing market timeframe. This will reflect the processes and tools (Market Scheduling and Pricing software, such as SCUC / SCED tools or other decision support tools) used by the TSOs in determining balancing actions, identification of energy actions from non-energy actions and determination of the imbalance price in accordance



with the SEMC decisions. The detail of this process is likely to be included in an Appendix to the new market rules in a similar manner to Appendix N of the Code.

**Note** – *it is assumed that the designated NEMO(s) will operate with their own rule books as is current practice across Europe. These rule books must be compliant with the design of the I-SEM and the NC CACM; however, the I-SEM market rules should not be developed to include these rules as this may result in duplication of objectives and require additional overhead to manage duplicate codes over time. The I-SEM rules should require that participation in the day-ahead and intraday markets is achieved through any of the designated NEMO(s). Compliance with the rule books of the designated NEMO(s) will be a requirement of the I-SEM rules.*

**Determination of Supplier Unit volumes** – sections of the current Code may be adapted to reflect how ex-post metering volumes are offset with ex-ante contracted volumes to determine an imbalance volume for each Supplier Unit; however, significant new text is likely to be developed in this area. This must also recognise any special rules for Trading Site Supplier Units as well as changes with respect to the socialisation of the residual error volume.

**Energy Payments and Charges** – the new settlement arrangements for the I-SEM are likely to be significantly different from the current Code such that the existing Code cannot be adapted easily. New text will be required to reflect the settlement of balancing actions (whether for energy or non-energy actions), imbalance volumes for supplier units, and imbalance volumes for generators (where all contracted volumes from ex-ante and balancing timeframes do not correspond to metered output) taking account of any premium or discounts in respect of over and under generation. This needs also to set out the rules for the calculation of the quantity of incremental offers and decremental bids accepted, rules for the application of Firm Access in connection with same, rules where multiple incremental offers or decremental bids have been accepted in the one imbalance settlement period, etc.

**Capacity Payments and Charges** – sections of the current Code may be adapted to reflect the detailed rules relating to calculation of payments and charges for Reliability Options. Following publication of the Decisions Papers on the Detailed Design of the CRM, significant detail on the rules for the calculation of capacity payments and charges will need to be developed and it may be apparent that the current text cannot be easily adapted and new text must be developed. This will need to address the general rules for determination of payments to providers of Reliability Options. For example the price paid, the contract volume, any de-rating rules that are to be applied and if payments are to be load following, general rules for the determination of charges on Supplier Units which will fund payments to generators, setting out the price charged, the volume eligible for charging and if there are any load following obligations. This will also need to set out how payments and charges for difference are enacted when the reference price exceeds the strike price, as well as how the reference price is determined. Rules relating to special units, such as Assetless Traders, may be included here or in amendments to text from section 5 of the current Code. As payments to capacity providers are

funded by charges to units that purchase from the I-SEM, it will need to be considered how purchases by Assetless Traders in the reference market are treated.

## **Section 5 – Categorisation of Units and Rules for Special Units**

**Definitions and General** – sections of the current Code may be adapted to take account of changes to unit types in the I-SEM, specifically with respect to the Price Taker / Price Maker designation. This section will also need to set out the rules of how Priority Dispatch generators can act within the Balancing timeframe of the I-SEM and how curtailment will be treated.

**Conditions Applying to Generic Settlement Classes** – sections of the current Code may be adapted to reflect the settlement classes that will apply in the I-SEM and any specific settlement rules that apply (such as relating to cash-out and post-processes for curtailment, cash-out for non-firm constraint, etc.). This will involve new text to set out the determination of the reference price used for cash out of curtailed volumes.

**Interconnectors** – sections of the current Code may be adapted to reflect the operation of interconnectors in the Balancing timeframe, including responsibility for interconnector error volume (where the total metered volume does not correspond to the market surplus / deficit volumes determined by the ex-ante markets). Large section of the current Code relating to Interconnector Units will not be included in the new market rules.

**Note** – *elements of the operation of interconnectors in the day-ahead and intraday markets, including the roles of Shipping Agent and Central Counter Party are likely to be set out in the rule book of the designated NEMO(s) who are responsible for Central Counter Party obligations under CACM.*

**Energy Limited Units** – sections of the current Code may be adapted to reflect special rules that apply to these units in the Balancing timeframe as well as rules that may apply to payment for Reliability Options. As additional details on the calculation of payments and charges for the capacity mechanism are available, it may be that the current Code cannot be easily adapted and fresh text will be required to set out the new rules.

**Energy Storage Units** – sections of the current Code may be adapted to reflect special rules that apply to these units in the Balancing timeframe as well as rules that may apply to payment for Reliability Options. Additional text will need to be developed to take account of storage technologies that are not catered for in the current Code. This includes, but is not limited to, compressed air energy storage, flywheel storage, thermal energy storage and electric vehicles.

**Demand Side Units** – new text will need to be developed to reflect special rules that apply to these units in the Balancing timeframe as well as rules that may apply to payment for Reliability Options.

**Generator Units Under Test** - sections of the current Code may be adapted to reflect special rules that apply to these units in the Balancing timeframe as well as rules that may apply to payment for Reliability Options.

Further text will need to be developed to take account of additional emerging technologies that will be available in the I-SEM as well as special rules that may apply for Assetless Traders.

## **Section 6 Financial and Settlement**

**Note** – *the rules relating to clearing and settlement of day-ahead and intraday contracted volumes, including collateral requirements and cross party clearing will be set out in the rule book of the designated NEMO(s).*

**General** – sections of the current Code may be adapted to reflect the items subject to the settlement rules. This will take account of settlement items that will be managed by the imbalance settlement entity.

**Currency** – the specifics around the management of currency for the Balancing market may be considered along with rules for the management of currency risk in relation to the other revenue streams (such as Capacity Remuneration Mechanism, day-ahead and intraday where appropriate, etc.). Regardless, significant new text will be required to document the implementation of the SEMC decision in this respect.

**Banking Arrangements** – this will include text in relation to cash collateral provision, establishment of trusts or other central counter party clearing arrangements required for the I-SEM. As common requirements may be explored for other revenue streams, this issue may be explored in a separate process. The current Code may be adapted with limited changes as a result of the Balancing market design. Existing arrangements may be suitable to endure for balancing/imbalance settlement.

**Description of timelines** – this will need to set out the details of the settlement calendar as it relates to imbalance settlement and the Capacity Remuneration Mechanism. This should also address timetabled re-runs of imbalance settlement as required.

**Queries to Settlement Data** – sections of the current Code may be adapted for the I-SEM. Principle changes will be the exclusion of on the day-ahead and intraday markets and limit queries to imbalance settlement and the Capacity Remuneration Mechanism only. Given that imbalance prices are also determined from real-time actions, it is not envisaged that any of the I-SEM prices will be subject to revision in a similar manner to that provided for in the SEM. As such, Data Queries are unlikely to be required as set out in the Code. Therefore, any adaptations will be to the Settlement Query processes (this will ensure that data items currently limited to the Data Query process, such as metered generation, can be queried under the Settlement Query process). Developing text in this section should be done in conjunction with a review of

Agreed Procedure 13 – Query Generation. The dispute process set out in the SEM is possibly fit for purpose for the I-SEM with no changes.

**Invoice Calculations** – sections of the current Code may be adapted to reflect the settlement items for the I-SEM developed in section 4.

**Allocation of Unsecured Bad Energy Debt** – the current rules may be adapted to take account of bad debt in relation to imbalance settlement. Day-ahead and intraday rules will be governed under a separate rule book. For socialisation of any bad debt for imbalance settlement, this will need to consider how this is most fairly managed. This should consider if bad debts are socialised across –

- Parties subject to energy balancing actions only;
- Parties subject to any balancing actions; or
- All parties to the I-SEM, taking account of ex-ante trading.

Given the scale of changes, it may be more appropriate to develop new text for this issue.

**Credit Cover Obligations and Calculations** – the processes set out in the SEM for collateral management and calculation may be sufficient for the I-SEM; however, as cash moves across multiple markets in the I-SEM which may not all be settled by the same operator, the rules will need to be updated to reflect this. The day to day processes, however, may not require changes. Given this, the relevant section of the current Code may be adapted for the I-SEM.

Further to the changes noted above, market rule for the Balancing Market will require additional Appendices similar to those in the current Code. The text of many of these can be adapted for the development I-SEM market rules, specifically:

**Appendix E – Data Publication:** this could be adapted to address changes in data items and timing of publication for I-SEM. This would include the removal of items specific to the older arrangements and the inclusion of items relating to the I-SEM such as additional forecast volumes, aggregate PN values, and aggregated ex-ante contracted volumes, etc.

**Appendix G – Invoices and Settlement Statement:** this could be adapted to reflect new settlement calendar timelines and new settlement items included for the I-SEM.

**Appendix H – Participant and Unit Registration and Deregistration:** this could be adapted to reflect new requirements in the event of a single registration being required for all I-SEM trading. This will reflect the registration requirements of any / all designated NEMO(s) for the I-SEM. This should be done in conjunction with a review of Agreed Procedure 1. A major issue to consider here is how the registration process for the I-SEM reflects participant interaction across multiple market timeframes and potentially with multiple operator entities. The registration process will need to be developed in a holistic manner to ensure that no circular barriers are created and that registration in the I-SEM provides participants with access to all trading opportunities that are available. It is likely that significant new text will have to be developed to set out the process of a single registration for the I-SEM

**Appendix I – Offer Data:** this could be adapted to reflect the incremental and decremental offers to the Balancing Market.

**Appendix J – Market Operator and System Operator Data Transactions:** this could be adapted to reflect new data communications between the entities in the I-SEM. This will include the NEMO(s) and set out requirements for communications between the NEMO and the TSO and the Imbalance Settlement entity.

**Appendix L – Meter Data Transactions:** this could be adapted to reflect updated metering requirements for the I-SEM. This will need to take account of the removal of the concepts of “price effecting” demand and generation while retaining the timelines and obligations as currently operated.

**Appendix M – Description of the Function for the Determination of Capacity Payments:** this appendix will need to be reviewed for the I-SEM. Determination of capacity requirement may be included in the auction rules for Reliability Options and a similar appendix to the I-SEM market rules may not be required.

**Appendix N – Operation of the MSP Software:** this section deals very specifically with the requirement of the Unconstrained Unit Commitment software used in the SEM and will be unsuitable for adaptation for the I-SEM. New rules will need to be developed to set out the details around the operation of the decision tools of the TSO that will be used to determine the imbalance prices and any Bid Offer Acceptances. This should be developed in conjunction with the development of the pricing rules in the main body of the market rules.

**Appendix O – Instruction Profiling:** this could be adapted based on amendments to the technical data to be included in the algorithm.