

Review of Responses To The 7 April 2017 Balancing Market Principles Statement Consultation

8 September 2017



Introduction

The Balancing Market Principles Statement (BMPS) was published for consultation by SONI and EirGrid on the 7 April 2017. The BMPS, along with associated publications, is aimed at providing an informative description of the scheduling and dispatch processes and increasing the transparency of these processes. This consultation sought feedback from industry on the format and style of the BMPS which reflected the development of the I-SEM rules up to the middle of March 2017.

On the 26 April 2017 SONI and EirGrid held an industry forum at which the contents of the BMPS were discussed and the specific areas of consultation highlighted. The consultation closed on the 19 May 2017 with 13 industry responses received. One response was market confidential. The non-confidential responses were received from:

- AES
- Aughinish Alumina Ltd.
- Bord Gáis Energy
- Brookfield Renewable Ireland
- CEWEP
- DRAI
- ESB GWM
- iPower
- SSE
- Tynagh Energy Limited
- Vayu
- Viridian

The consultation version of the BMPS, supporting documentation and the non-confidential responses are published on the I-SEM project page on the SEM-O website¹.

This document sets out a summary of the main consultation comments received and our responses. We have updated the BMPS based on these comments and other developments that have taken place since the consultation. This BMPS represents our current best view of the scheduling and dispatch process and we are now submitting it to the RAs for SEMC approval.

¹ <http://www.sem-o.com/ISEM/Pages/Publications.aspx?documentarchivestatus=Active>

Background to the BMPS

SEMC decisions

In its decision on the energy trading arrangements² in the I-SEM, the SEMC supported the development of a Balancing Market Principles Statement (BMPS) by the TSOs to ensure consistency, transparency and comprehensibility of TSO decision-making in the Balancing Market in I-SEM.

The SEMC was of the view that the BMPS should evolve from a Terms of Reference decision document which would be consulted on by SEMC; ³this was published in October 2016 and states that the BMPS will be approved by the SEMC after consultation with market participants.

The SEM Committee highlighted that they consider transparency and predictability of TSO actions in the Balancing Market will be vital in the I-SEM. The intention is that the BMPS will provide clarity and certainty to market participants on the timing and nature of TSO actions and setting out reporting of exceptions against it.

Licence modifications

In December 2016, both RAs consulted upon modifications to SONI and EirGrid's TSO Licences to incorporate a requirement on both TSOs (in conjunction) to develop a BMPS in line with the Terms of Reference determined by the SEMC and to publish the BMPS following approval.

The decision on this change was published on 10 March 2017. The transitional provisions included in the licence condition mean that the obligations became active following a direction by the relevant RA. As the SEM Committee decision refers to the revised trading arrangements, we have received confirmation from both RAs that the document should cover the future arrangements.

With respect to the new trading arrangements, the licence condition:

- Requires us to prepare the BMPS (in accordance with the Terms of Reference) and publish it following approval;
- Enables us to make changes to the BMPS in accordance with a specified procedure which will ensure that market participants are given an opportunity to submit representations;
- Requires us to ensure that the BMPS is as accurate a statement of the scheduling and dispatch process as possible given the consultation timelines and report exceptions against it.

² SEM-15-065 I-SEM-ETA Markets Decision Paper

³ SEM-16-058 BMPS Terms of Reference Decision Paper

Summary of Comments Received and Our Response

This section summarises the main points raised in the consultation and the main updates made to the BMPS.

Form & Style: The majority of respondents who commented on the overall form and style of the BMPS indicated broad approval of the BMPS as a guide to the scheduling and dispatch process.

We have sought to improve the readability of the document by using a more active and direct style of English in this update.

Level of Detail: Respondents requested more detail in some aspects of the scheduling and dispatch process, especially related to demand and renewables forecasting. We have subsequently provided more detail in some areas, however, as some processes remain under development we are not able to fully address all requests at this stage. We will consider a further update of the BMPS closer to market go-live in order to address known gaps in its contents and/or look to provide additional supporting information once these processes are developed.

We have re-arranged section 4 of the BMPS (the description of the scheduling and dispatch process) to allow this section to provide a higher level description of the process with a more detailed description provided in a new appendix (appendix 2). We believe this layered approach makes the document more accessible to different audiences.

We also propose development of demand and renewables forecasting methodologies that would provide more detail than is currently included in the BMPS. We propose to make these available prior to go-live of the revised SEM arrangements either as part of the BMPS or as separate publications.

Form of Consultation: A number of respondents objected to the form of the BMPS consultation which was focused on the format and style of the document. We did seek industry views on the level of detail provided and the form of how we provided this information and explicitly asked for feedback in our consultation questions. We do not believe it would have been appropriate for us to consult on our interpretation and implementation of our statutory obligations. For example, we set out our obligations with respect to Priority Dispatch generation and described how we implement these

obligations through the application of negative decremental prices in the scheduling optimisation. We were seeking views on how we described this implementation, not on the implementation itself.

In addition, the description of the scheduling and dispatch process was limited by the issues that remained to be determined at the time the BMPS was drafted.

Further Consultation: A number of respondents requested follow-up engagement and consultation on the next version of the BMPS. As noted above, we will consider further updates of the BMPS closer to go-live in line with our licence obligations to maintain the BMPS as an accurate and up-to-date a description of the scheduling and dispatch process as is practicable. We will also consult on such updates.

Obligations: In the consultation paper we focused on our obligations related to priority dispatch, as an example of our proposed approach. Given the broad support for the form of the Obligations section of the BMPS, we have expanded this section to complete the regulatory framework overview of the remaining obligation areas. We have now included the frameworks for Ensuring Operational Security, Efficient Operation of the SEM and Provision of Transparency.

Solar and Tidal Generation: Subsequent to the BMPS consultation we have received clarification from the SEMC on the position of solar and tidal generation in the Priority Dispatch hierarchy. The position is that solar and tidal will be equivalent to wind in the hierarchy. The BMPS has been updated to reflect this clarification and we have noted that development work is underway to achieve its implementation. We understand that the RAs will consult on the priority dispatch hierarchy during 2018.

Scheduling and Dispatch Parameters: At the time of the BMPS consultation there was a separate SEMC consultation (SEM-17-029) on scheduling and dispatch parameters (LNAF/SIFF/SSII). The resulting SEMC decision (SEM-17-046 of 7 July 2017) on the outcome of this consultation is that the LNAF and SSII/SIFF parameters will be set to zero at market go-live. As a result these parameters will have no impact on the scheduling and dispatch process at market go-live. We have updated the BMPS to reflect this decision.

Cross-Zonal Arrangements: The consultation version of the BMPS highlighted that development of the processes/methodologies for determining cross-zonal capacities and the mechanisms available for cross-zonal actions was ongoing. These arrangements remain under development so we are not in a position to provide an update in this

version of the BMPS. It does however remain our intention to provide this information in a subsequent BMPS update and/or in supporting information.

Exceptions: There were a number of comments on our definitions for exceptions with suggestions provided for alternatives and additional exception reporting mechanisms. We have included some additional exception events as suggested and we have recognised that other events may arise under the revised SEM arrangements that are not currently captured. We will therefore review our event-driven reporting arrangements and update this section of the BMPS as appropriate to reflect any new events that fall into this exceptions category.

Publications: Respondents generally welcomed the proposal for the BMPS to refer to a publications website on which live documents would be maintained. This website is under development so we have maintained this section of the BMPS as providing a sample of the material that we intend to provide on the website or link to via the website.

Processes: There was broad support for the publication of our Operational Processes as an additional transparency measure and source of additional technical detail. It remains our intention to publish (on the website mentioned above) a more comprehensive suite of Operational Processes before market trial commences.

Methodology: There were a number of comments related to the governance and contents of the System Operator and Non-Marginal Flagging Methodology specifically related to System Services Flagging. The governance of this methodology is under the TSC, not the BMPS, so it did not form part of this consultation. On the specific application of System Services Flags to DSUs, the rules will give effect to the relevant respondents suggested outcome when these units are required for Replacement Reserve. It remains our intention to update and publish this methodology prior to Market Trial.

The following sections provide our response to comments received on each section of the BMPS.

General Comments

Background

The comments below are those that are not related to specific sections of the BMPS or are considered to be outside of the scope of the BMPS.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| A1 | The majority of respondents were supportive of the overall style and form of the BMPS. | We welcome this feedback. While the SEMC's Terms of Reference for the BMPS largely determined its contents, our drafting approach sought to balance the level of detail we provide around the technical complexity of the scheduling and dispatch process while ensuring it remains accessible for informed industry participants. |
| A2 | A number of respondents stated that there was insufficient information in some areas of the BMPS | We have subsequently provided more detail in some areas however as many of the rules/processes remain under development we are not able to fully respond to all the requests at this stage. We will consider a further update of the BMPS closer to market go-live in order to address known gaps in its contents and/or look to provide additional supporting information once these processes are developed. |
| A3 | A number of respondents objected to the form of the consultation (being focused on the format and style of the BMPS) and suggested follow-up engagement and consultation. | We did seek industry views on the level of detail provided and the approach to how we should provide this information. We explicitly requested this feedback in the questions we asked in the consultation cover paper and the consultation version of the BMPS. However, we do not believe it would have been appropriate for us to consult on our interpretation and implementation of our statutory obligations. These obligations have been set by the appropriate governing bodies and in |

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| | | <p>many cases have been the subject of recent consultations (e.g. changes to the TSOs' Licences, TSC and Grid Codes).</p> <p>We are implementing these obligations through the development of new systems and processes and are at an advanced stage in this development. We have described these for transparency purposes but we do not consider it appropriate to open this implementation to consultation.</p> <p>As noted above, we will consider further updates of the BMPS closer to go-live and will consult on such updates in line with our Licence obligations.</p> |
| A4 | One respondent commented that it was inappropriate for the contents of a key document governing the [TSOs] actions not to be consulted on. | The BMPS does not govern the actions of the TSOs. The governing arrangements (such as Licences, TSC and Grid Codes) have been developed and consulted on separately - the BMPS brings together these requirements to provide industry with an understanding of the resulting processes implemented by the TSOs. |
| A5 | One respondent commented on the need for the BMPS to contain 'principles' related to the activities described. | <p>Principles of market design and system operation ('Balancing Market Principles') are captured in the statutory obligations under which we operate the scheduling and dispatch process.</p> <p>The form of the BMPS, as determined by the SEM Committee, provides an overview of our scheduling and dispatch process with reference to these statutory and code obligations (as set out in section 2 of the BMPS).</p> <p>We have provided this clarification in section 2 of the BMPS.</p> |
| A6 | One respondent stated that there was no new information in the BMPS. | Through the I-SEM Market Rules Working Group we kept industry representatives informed of the |

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| | | <p>development of the scheduling and dispatch process through a series of presentations and production of a 'plain English' guide to this process. This information has, we believe, rightly formed the basis of the BMPS which has been developed to be informative and accessible to a broader range of industry participants who may be less familiar with this process as those who participated in this working group.</p> <p>Many of the inputs and objectives of this process are not new (system security and priority dispatch requirements remain the same) but there are significant changes to the TSOs' systems and process being brought about to adapt to the new market design. These new aspects to the process are described in the BMPS.</p> |
| A7 | <p>One respondent suggested that an obligation be placed on the TSOs to ensure that the BMPS is not out of date by more than a defined period.</p> | <p>Our TSO Licences set the requirement for maintaining the BMPS: <i>The Licensee shall ensure that, following updates to obligations on the Licensee and/or the Licensee's associated operational processes and in accordance with paragraphs 5 and 6, the Balancing Market Principles Statement is as accurate and up-to-date a description of the scheduling and dispatch process as is practicable.</i></p> |
| A8 | <p>One respondent requested that consideration be given to preparation of 'worked examples' as an approach to providing information to market participants.</p> | <p>We have developed an I-SEM Project Training Plan for Participants (here) that includes Scheduling and Dispatch as an explicit training topic with both 'self-learning' and 'instructor-led' modules. We will be providing this material in line with the training delivery timeline.</p> <p>There is also an industry working group being established to input to market trial (here). The scheduling and dispatch</p> |

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| | | <p>process is core to the market trial and this working group will discuss the scenarios that are planned.</p> <p>We have also included a worked example of the development of a schedule and resulting dispatch in appendix 2.4 of the BMPS.</p> |
| A9 | <p>One respondent requested that the TSO and the regulators need to give further consideration to how DR/DSUs can be facilitated when developing the new I-SEM market arrangements.</p> | <p>The market design was led by the RAs and was completed some time ago. Consultation on the market arrangements was not part of this BMPS consultation.</p> |
| A10 | <p>One respondent highlighted concerns about the process for inclusion of solar generation in the priority dispatch hierarchy (also noting that this was outside of the scope of the BMPS consultation).</p> | <p>Subsequent to the BMPS consultation we have received confirmation from the SEMC on the position of solar and tidal generation in the Priority Dispatch hierarchy (in a letter from the SEMC to the TSOs of 24 March 2017). The position is that solar and tidal will be equivalent to wind in the hierarchy. The BMPS has been updated to reflect this clarification.</p> <p>We understand that the RAs will consult on the priority dispatch hierarchy during 2018.</p> |
| A11 | <p>One respondent requested further engagement on the TSOs' proposed methodology for determining the operational parameters (LNAF and SIFF) that was subject to a separate SEMC consultation at the time of the BMPS consultation.</p> | <p>The consultation on the TSOs' methodology for determining these parameters was part of a SEMC consultation process.</p> <p>SEMC have now decided on these parameters per SEMC decision SEM-17-046 of 7 July 2017.</p> |
| A12 | <p>One respondent requested a study of the SCUC and SCED models similar to a 2010 SEM-O report "Solver Choice in the SEM: A Comparative Study of Lagrangian Relaxation vs. Mixed Integer Programming". This was requested to help improve understanding of the optimisation</p> | <p>The purpose of the 2010 report was to assess the differing results that the market would see depending on whether the MIP or LR solver was used and was in response to particular market issues that arose at the time.</p> <p>It is not clear what in particular is being requested here in relation to SCUC and</p> |

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| | process | <p>SCED models.</p> <p>At the I-SEM Project Managers Group meeting of 18 October 2016 there was a presentation provided on testing and certification of systems. This noted that there will be some testing of the scheduling and dispatch systems under this process (see link below).</p> <p>http://www.sem-o.com/ISEM/General/ISEM_PMG%20Presentation%2018%20October.pdf</p> |
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Important Information

Background

The intent of this section is to set out the version of the Grid Code and TSC that the BMPS relates to. The BMPS consultation requirements set out in our Licences mean that there will be a minimum of a two month gap between the date the BMPS is published and “freeze” date for obligations that the document reflects.

We invited feedback on other important information that should be included at the start of the BMPS.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| B1 | One respondent supported the objective of this section. | Noted. |
| B2 | One respondent requested a process for highlighting changes to the BMPS that are in effect but not yet reflected in an updated BMPS. | It is recognised that obligations impacting the scheduling and dispatch process will arise that take effect before being updated in the BMPS. We will consider how to best indicate that a BMPS update is pending during development of the website page for the BMPS. |
| B3 | One respondent suggest that the BMPS set out principles that the TSOs will follow relevant obligations and that it will update the BMPS accordingly. | We do not believe it is necessary to state a ‘principle’ of following obligations and maintaining the BMPS up to date. These are statutory duties that the TSOs must comply with. |

We have updated this section of the BMPS to include a table of the now approved TSO Licences and Codes

Terms and Definitions

Background

This section provided a list of the terms and definitions that we use throughout the BMPS. This is to provide a point of reference to assist with the readability and accessibility of the document.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| C1 | One respondent noted the need to include definitions for LNAFs, SIFFs and SSIs. | Definitions are now included. |

Objectives of the BMPS

Background

This section of the BMPS simply reflects the objective of the BMPS as determined by the SEMC (SEM-16-058) and summarises the contents of each section.

Comments Received and Our Response

There were no explicit comments received in relation to this section. No material change has been made to this section.

Obligations

Background

This section sets out what we believe is an accessible interpretation of our obligations across European Regulations, national legislation, licences and codes. Information was provided on two levels. Firstly, in the main document we provided an overview of the main objectives of the scheduling and dispatch process. We then presented further detail on the legal framework underpinning each objective in an appendix to facilitate further assessment by more informed readers and act as a signpost to the sources of the obligations themselves. We presented one example of these appendices in the consultation version of the BMPS.

We requested feedback on this multi-level approach to the description of our obligations.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| D1 | The vast majority of the responses on this section supported the 'multi-level' approach proposed by the TSOs. | Based on the support for the structure of this section, we have expanded the regulatory framework model to incorporate the remaining obligation areas of Ensuring Operational Security, Efficient Operation of the SEM and Provision of Transparency. |
| D2 | One respondent raised an issue with SI 426 part6 35(3) regarding the obligation on the TSO to ensure continuity of heat supply where the CHP unit is certified by the CER as High Efficiency. | We have sought clarification from the RAs regarding the application of SI 426 and the continuity of heat supply, and are awaiting a response. |
| D3 | One respondent suggest that a new obligation be included to minimise the impact of balancing market operation on ex-ante markets | This BMPS consultation was not consulting on existing or new obligations, the BMPS simply reflects these obligations. Amendments to the TSOs' Licence requirements were consulted on by the RAs and decisions published by the RAs on the 10 March 2017. We note however that this principle was considered by the RAs throughout the |

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| | | development of the new trading arrangements, including the amendments to our Licences. This is reflected on our description of the obligations outlined in the BMPS. |
| D4 | One respondent raised the TSOs' incentive mechanism as a factor that should be considered when discussing the objectives of the scheduling and dispatch process. | The TSO incentive mechanism arrangements for implementation at go-live of the new market are yet to be determined by the RAs. The SEM Committee commented on this issue in paper SEM-17-045. In this paper they say "Given time constraints, there may not be an incentive mechanism in place for the first year of the I-SEM" This consultation closed on 2 August 2017. |
| D5 | One respondent requested clarification on the obligation under 2.3, 2nd paragraph, the obligation quoted is "minimising the overall costs of the generation ..." and the next paragraph which states the TSOs have an obligation of minimising the costs of diverging from PNs to balance the system. | In Ireland, the S.I. 445/2000 requirement to minimise the overall cost of the generation, transmission, distribution and supply of electricity to final customers is a broad, high level objective. We do not believe it conflicts with the specific obligations under the TSOs Licences to minimise the cost of diverging from PNs. It is this specific licence objective (minimise the cost of diverging from PNs) that is implemented in the scheduling and dispatch process. The wider obligation set out in SI 445/2000 is reflected in decisions made across the EirGrid business, including decisions related to grid development. |
| D6 | One respondent requested that the process for resolving competing objectives is clearly set out. | There is a process set out in SEM-11-062 'Principles of Dispatch and the Design of the Market Schedule in the Trading and Settlement Code' that requires the TSOs to review the priority dispatch hierarchy on an annual basis and make submissions to the SEM Committee further to this review as necessary and appropriate. This process has recently been followed in relation to |

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| | | <p>the inclusion of solar units in the priority dispatch hierarchy.</p> <p>Any update to the hierarchy of objectives would be reflected in a BMPS update, the process for which is set out in the TSOs' Licences.</p> |
| D7 | <p>One respondent sought clarification on the relative ranking of the objective of maximising priority dispatch generation over efficient operation of the SEM.</p> | <p>SEM-11-062 also sets the basis of our ranking of the objective of 'maximising priority dispatch generation' ahead of 'efficient operation of the SEM'. This decision states that the TSOs must adhere to an 'absolute' interpretation of priority dispatch whereby economic factors are only taken account of in exceptional situations. At times this will result in dispatch being economically less efficient to avoid curtailment of priority dispatch generation.</p> |
| D8 | <p>One respondent commented on the need to reference various fuel security and emergency events (e.g. NI Fuel Security Code and Article 37 of the 1992 order).</p> | <p>We consider such events 'exceptional' and have included appropriate reference in the 'Exceptions' section. In addition we have updated the relevant obligations framework within the BMPS to reference the relevant documentation.</p> |

Inputs

Background

In this section we described each of the inputs to the scheduling and dispatch process divided across a number of categories. We endeavoured to make this section as comprehensive and accessible as possible, while fully reflecting the technical complexity of these inputs.

We also provided a sample of one of our internal process documents to illustrate the further level of detail that we intend to provide to support industry experts who are interested in additional information about the source of the input data. Because these documents will sit beside the BMPS, they can be updated more quickly than the main document, allowing more immediate visibility of updates, improving transparency beyond that requested by the SEM Committee in its decision paper.

We requested feedback on the level of detail in which we describe these inputs and our proposed approach of, where appropriate, publishing our internal process documents alongside the BMPS.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| E1 | <p>One respondent expressed a concern that there was too much detail in this section resulting in difficulties in keeping this section up to date.</p> <p>One respondent stated that they were satisfied with the level of detail provided.</p> | <p>We believe the level of detail is appropriate to meet the SEMC's terms of reference for this section. We have sought to include references to specific data input requirements (such as contained in Grid Codes and TSC) which contain the detail rather than duplicating in the BMPS.</p> |
| E2 | <p>One respondent requested that we clarify what each input is used for in the scheduling and dispatch process.</p> | <p>Where not already stated we have sought to clarify what each input is used for in the scheduling and dispatch process.</p> |
| E3 | <p>A number of respondents had specific queries regarding the demand and wind forecasting processes such as how embedded generation is treated and why forecast generation is used</p> | <p>We acknowledge the queries related to our forecasting processes and the need to have these processes clearly set out.</p> <p>To address this we propose development of demand and renewables</p> |

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| | as a proxy for forecast demand. | forecasting methodologies that would provide more detail than is currently included in the BMPS. We propose to make these available prior to go-live of the revised SEM arrangements either as part of the BMPS or as separate publications. |
| E4 | One respondent requested clarification of how non-controllable wind farms are dispatched. | The process for dispatch of wind farms is set out in the TSOs published policy document 'Wind Farm Controllability Categorisation Policy' (as referred to in the BMPS). Specifically, non-controllable wind farms are 'dispatched' by opening the circuit breaker or point of connection to the system. |
| E5 | A number of respondents highlighted the importance of providing more frequent updates of constraints. | Constraint updates are currently provided on a monthly basis. As indicated in the BMPS we propose moving this to a weekly update with additional ad-hoc reporting of constraint updates. The weekly and ad-hoc reporting arrangements are under development at this time. |
| E6 | One respondent requested clarification of the PN validation process. | Technical details of the validation are contained in the I-SEM Technical Specification (ITS) Volume C Balancing Market V7.0, section 5.7.2 Physical Notifications – Data Elements and Validation. www.sem-o.com/ISEM/General/I-SEM%20Technical%20Specification%20Release%206.zip |
| E7 | A number of respondents commented on the LNAF/SIFF inputs which at the time of the BMPS consultation were subject to a separate parameters consultation by the SEMC. | This section has been updated to reflect SEMC decision SEM-17-046 'I-SEM Policy Parameters and Scheduling and Dispatch Parameters' of 7 July 2017. |

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| E8 | <p>One respondent noted that information such as process maps could be published in separate documents or an annex to the BMPS in order to reduce ongoing maintenance. And that if this approach was taken they would like to see a clear requirement for the TSO to notify participants of any changes to these documents.</p> | <p>Process maps are included in the Operational Processes published by the TSOs (see the sample process documents published as part of the BMPS consultation).</p> <p>We will consider how to best to notify industry that an Operational Process has been updated during development of the website page for the BMPS / Operational Processes.</p> |
| E9 | <p>One respondent requested that contracted DS3 System Service volumes are published.</p> | <p>DS3 System Services capabilities are agreed as part of a bi-lateral contract between the TSO and System Service provider. We are not in a position to publish the contents of these agreements.</p> |
| E10 | <p>One respondent requested that the TSOs' required volumes for DS3 System Service be published.</p> | <p>The requirement for some DS3 System Services form part of our published Operational Constraint Update document (May 2017 Update). For example:</p> <ul style="list-style-type: none"> • Reserve requirements are specified as a percentage of the largest system infeed (e.g. Primary Operating Reserve requirement is 75% of the largest system infeed). This is therefore a dynamic requirement that can vary continuously through each day. • Reactive power requirements are identified through the specification of voltage constraint (e.g. North West Generation requirement to run 1 unit for voltage support) • The minimum inertia requirement for the system is set at 20,000MWs. <p>The requirements for some of the newer System Services are under development</p> |

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| | | and will be included in the Operational Constraint Update report once available. |
| E11 | One respondent requested further information on distribution network constraints. | We are currently considering how to report on distribution network constraints notified to the TSOs by the DSO/DNO. |
| E12 | A number of respondents requested further information on the inputs to the SO Trade processes / Cross-Zonal Actions. | As noted in the BMPS, we are currently developing the services that will be available for application under the revised SEM arrangements (subject to RA consideration). The arrangements will include the specific services that will be made available, arrangements for determining and exchanging offered energy volumes and associated prices and how such services are utilised. |
| E13 | One respondent sought clarification on the technical DS3 System Services inputs and how these were grouped. | <p>There are two main categories of DS3 System Services input:</p> <ul style="list-style-type: none"> • System Service Provider Capability – the contracted and/or declared capability to provide a System Service as determined by the Service Provider. This is set out in section 3.2.1 and 3.2.4. • System Service Requirement – the volume of each service required as determined by the TSOs – this is set out in section 3.4.4 of the BMPS. |
| E14 | One respondent noted a number of other policy inputs that could impact on the process. These relate to fuel security, gas emergency and other emergency events. | <p>The inputs we have described in this section are those which are modelled in the scheduling and dispatch tools and which impact day to day operations. As noted in the respondents comments there are other events which could impact on this process but we would consider these exceptional events.</p> <p>Reference to these emergency events is now included in the Exceptions section of the updated BMPS.</p> |

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| E15 | One respondent raised queries in relation to Figure 4 and the position of interconnector schedules ahead of Priority Dispatch units in the hierarchy. | The Priority Dispatch hierarchy is taken from SEM-11-062. The preservation of the interconnector market schedule is ahead of priority dispatch units however interconnector trading (cross-zonal actions by the TSOs) will be utilised ahead of curtailing priority dispatch units. Cross-zonal trading does not impact on the interconnector market schedule (it is in addition to this schedule). |
| E16 | One respondent queried how interconnector availability changes are accommodated within-day | This process will be documented in the Interim Capacity Calculation Methodology that we intend to publish. |
| E17 | One respondent queried if the interconnector schedule can be moved to accommodate wind and how this is done. | This will be clarified once the Cross-Zonal arrangements are determined. |
| E18 | A number of respondents requested clarification of the position of solar generation in the priority dispatch hierarchy. | On the 24 March 2017 the SEMC wrote to the TSOs stating that it is content that solar and tidal generation should be included in the priority dispatch hierarchy at the same position as wind. The SEMC have stated that this is an interim position pending any future SEMC consultation. We have updated the BMPS to refer to the inclusion of Solar and Tidal generation in the priority dispatch hierarchy. |
| E19 | One respondent raised queries relating to LNAFs/SIFFs/SSIIIs. | At the time of the consultation these parameters were subject to a separate SEMC consultation. Section 3.1.2 has now been updated to reflect SEM Committee decision SEM-17-046 of 7 July 2017. |
| E20 | One respondent raised queries relating to PN submissions – how the TSO derives implicit PNs for non-dispatchable units and why the TSOs' systems have been designed to allow | The TSOs implicit PNs for non-dispatchable units are the renewables forecast described in section 3.4.2 of the BMPS. |

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| | non-dispatchable units submit their own PNs. | The TSOs systems have been designed to allow all market participants submit PNs as this was allowed for in the market design. However, for non-dispatchable units these PNs will not be used by the TSOs. |
| E21 | One respondent raised a query relating to participants submitting a forecast of availability and DS3 System Services. | There is a requirement for DS3 System Services providers to declare their real-time System Services capability - this is not a forecast of the expected provision of a System Service. We have updated this section to make it clear that it relates to MW availability and DS3 System Services capability declarations. |
| E22 | A number of respondents asked if constraints that arise from real-time analysis and monitoring could be reported to the market. | We are planning to move from monthly to weekly reporting of constraints with ad-hoc updates. These new reporting mechanisms are under development. |
| E23 | One respondent asked if the interconnector capacity determination process was going to be a real-time system for continuous trading under XBID. | There is an interim cross-zonal capacity calculation process being implemented (we intend to publish this process). The enduring arrangements for XBID are to be developed. |
| E24 | A number of respondents raised queries related to the inputs to the setting of cross-zonal prices and volumes. | As stated in the consultation version of the BMPS, the cross-zonal arrangements are under development. This section of the BMPS will be updated in accordance with the TSOs' Licences to reflect the agreed arrangements once finalised. |

Scheduling and Dispatch Process

Background

This section describes the scheduling and dispatch process itself, building on the information provided in Obligations and Inputs sections. We aimed to provide sufficient information here to provide a comprehensive description of the processes that we expect to follow under the revised SEM arrangements and invited feedback on the level of detail provided.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| F1 | One respondent requested further detail on the interaction of the LTS, RTC and RTD schedules. | <p>LTS and RTC are the schedules that recommend unit commitment decisions (from long term to short term). RTD does not make unit commitment decisions (it takes these from LTS and RTC) but is used to provide incremental and decremental dispatch advice for units already committed.</p> <p>The information presented in the BMPS is supplemented with the sample Operational Process that we published as part of the BMPS consultation. These (Long Term and Short Term Scheduling and Issue Dispatch Instructions) provide additional information on how the schedules interact.</p> |
| F2 | A number of respondents requested that the TSOs publish the negative decremental prices used to give effect to the priority dispatch hierarchy. | <p>We do not believe it is appropriate to publish these prices as:</p> <ul style="list-style-type: none"> • They are internal parameters to the scheduling and dispatch process aimed at giving effect to the priority dispatch policy that we are required to implement – they are not used outside of the scheduling and dispatch systems. • They may be tuned to give effect to this policy so are not static |

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| | | <p>values.</p> <ul style="list-style-type: none"> • There may also be implications from a market power perspective if these prices were to be published. |
| F3 | <p>One respondent noted that the price data (complex and simple) used in scheduling and dispatch and that applied in settlement can be different. The respondent suggested that there should be monitoring of the impact of this difference.</p> | <p>We acknowledge that scheduling decisions could be based on one set of price data with a different set of price data used in settlement. This is a function of the market design and having two sets of price data.</p> <p>We have stated the source of price data used in each of the scheduling timeframes. The application of pricing data in settlement is set out in the TSC.</p> <p>The monitoring of the market impact of this approach is outside of the scope of the BMPS.</p> |
| F4 | <p>One respondent sought clarity on how units could be committed at short notice if required before the start of the RTC window given that RTD will not make unit commitment decisions.</p> | <p>There are two routes to committing short notice units:</p> <ol style="list-style-type: none"> 1. RTC will be run every 15 minutes so unit commitment recommendations will be continuously generated and available to dispatch. 2. The TSO operator can manually instruct a unit to commit. This approach would be taken, for example, following a unit trip when immediate action is required to start-up replacement units. |
| F5 | <p>One respondent requested a new requirement for the TSOs to avoid dispatch instructions outside of gate closure except in instances where a unit is required for constraint purposes.</p> | <p>While the introduction of new requirements is outside of the scope of the BMPS, the requirements set out in the TSOs' Licences give effect to the intent of this suggestion (<i>as far as practical, enabling the Ex-Ante Market to resolve energy imbalances</i>).</p> |

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| F6 | One respondent requested clarity on why a manually initiated LTS run would be performed post a unit trip. | <p>The tripping of a large unit can fundamentally change the operation of the power system. While we would expect the market to react and resolve the energy shortfall we need to reconsider system security requirements and potentially take actions to resolve any new system security issues that result from the trip.</p> <p>It is intended to publish LTS runs as they are produced (this is subject to an ongoing IT system impact assessment).</p> |
| F7 | One respondent requested further information on how real-time system conditions are applied in the scheduling and dispatch process. | An example has been included in section 4 to illustrate how real-time information may be taken into account in actual dispatch. |
| F8 | One respondent commented that this section describes the processes but not the methodologies and that it does not provide sufficient information to fully understand how indicative operational schedules are produced. | <p>The contents of this section of the BMPS seek to strike a balance between accessibility and detail. In section 3 we describe all the inputs to the process and in section 4 we describe the objectives of the optimisation and the mechanisms and tools by which we achieve these. We have separately published Operational Processes that describe the scheduling and dispatch process in more detail.</p> <p>It is not clear what is desired in the methodologies referred to in the comment. We have indicated in section 6.4 that we will publish a number of methodologies but these are related to specific inputs to the scheduling and dispatch process.</p> |
| F9 | One respondent requested that 'constraint violation costs' be provided. | <p>As with our response to the request to provide the negative decremental prices we apply to give effect to Priority Dispatch, we do not believe it is appropriate to publish these constraint violation costs as:</p> <ul style="list-style-type: none"> • They are internal parameters to |

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| | | <p>the scheduling and dispatch process aimed at avoiding violation of a security constraint – they are not used outside of the scheduling and dispatch systems.</p> <ul style="list-style-type: none"> • They may be tuned to give effect to this objective so are not static values. • There may also be implications from a market power perspective if these costs were to be published. |
| F10 | A number of respondents requested further information on the modelling of multi-mode units in the scheduling runs. | <p>Each scheduling run will model one mode of operation for each unit (e.g. OCGT or CCGT mode) based on the mode declared by the participant in their TOD set selection.</p> <p>We may also instruct a change to the mode of operation. For example, we may instruct on off-line CCGT unit to synchronise at short notice in OCGT mode for reserve purposes. Such arrangements are covered under System Service contracts.</p> |
| F11 | One respondent requested clarification of the unit commitment decision for a fast starting OCGT or DSU and why RTD was not able to make this decision. | <p>All unit commitment decisions are made based on LTS and RTC runs or manually determined by the TSOs. Fast start units will be scheduled by RTC which runs every 15 mins (could also be scheduled by LTS). RTD will only provide inc. and dec. advice for units that are already on or due to be on within its optimisation horizon.</p> |
| F12 | One respondent requested clarification on Figure 11 and allowance for the PN changing every minute resulting in different costs being relevant. | <p>For each scheduling interval (30/15/5 minute interval) there can be a different composite cost curve which reflects the PN at that interval boundary. We had incorrectly stated that this was per Imbalance Settlement Period, it should be per scheduling interval. The text has</p> |

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| | | been corrected to reflect this. |
| F13 | One respondent highlighted an inconsistency in the illustration of trading periods in Figure 12. | This figure has been updated to correct the inconsistency. |

Exceptions

In this section we described situations in which we would deviate from the processes described earlier in the document. We began by describing the normal variations that take place at a level of detail below the output from our scheduling tools, and then described the situations where our obligations and the various codes permit deviation from normal operation.

We invited feedback on the reporting associated with these exceptional events.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| G1 | <p>One respondent requested more information on 'Emergency Instructions' and contrasted the BMPS detail with that contained in the National Grid Balancing Principles Statement.</p> <p>One respondent asked if this is how unit mode changes (OCGT/CCGT) and fuel changeovers are instructed.</p> | <p>An Emergency Instruction is as defined in the EirGrid Grid Code (it is not a defined term in the SONI Grid Code). It is also a defined Cross-Zonal action as documented in section 3.4.6. In practice this instruction type has not been actively used.</p> <p>National Grid have a much broader range of application of Emergency Instructions including Demand Control and Black Start events. We have listed separate 'exceptions' that capture these events.</p> <p>There is currently no explicit reporting mechanism for Emergency Instructions. We propose that these are captured in an annual exceptions report.</p> <p>Emergency Instructions are not used for mode changes or fuel change-overs. We have expanded on the instruction types listed in Appendix 2.3 to provide this clarity.</p> |
| G2 | <p>A number of respondents highlighted the need for additional exception reporting, suggestions include:</p> <ul style="list-style-type: none"> • All instances where the TSOs | <p>We acknowledge the range of suggestions made regarding the type and timing of exceptions reporting. We recognise that other events may arise</p> |

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| | <p>make deviations from normal market operations.</p> <ul style="list-style-type: none"> • Unusual or paradoxical pricing events. • Defining a tolerance (e.g. +/- MWh difference or +/-% difference relative to installed capacity) around a unit's indicative schedule outside which a query would be addressed if raised. • a regular feed of information as events happen (end of year is too late) • ensuring that items like early energy actions are captured • define normal, minor exceptions and major exceptions • a regular System Operations industry forum • an ability for participants to query TSO decisions | <p>under the revised SEM arrangements that are not currently captured. We will therefore review our event-driven reporting arrangements and update this section of the BMPS as appropriate to reflect any new events that fall into this exceptions category.</p> <p>However we are not proposing to add to our reporting approach at this time for the reasons outlined below:</p> <ul style="list-style-type: none"> • There are already significant additional reporting and transparency measures planned for the new market arrangements. For example, we will be publishing Indicative Operational Schedules and Dispatch Instructions close to real time. We will be publishing and updating the BMPS and our scheduling and dispatch process will be audited and reported on. These measures represent a significant step change in reporting and transparency from today. Once these 'normal' reporting arrangements are established it may then be appropriate to review reporting arrangements for 'exceptional' events. • We understand that the concept of 'exceptions' reporting was taken from National Grid's Balancing Principles Statement. We have followed the National Grid model in our proposal. We note that National Grid publish exception events in their annual Balancing Principles Statement Report, we have suggested that exception events are reported in |
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| | | <p>the planned audit of our scheduling and dispatch process.</p> <ul style="list-style-type: none"> • We believe it would be premature to develop additional exception reporting mechanisms prior to gaining experience of the new market. Additional development and implementation work at this stage (post completion of market rules and system specification) could impact on our project delivery timelines. |
| G3 | <p>One respondent commented on the definition of exceptions being those instances when the TSOs do not follow the processes described in section 4 of the BMPS rather than significant incidents.</p> | <p>Our aim in section 4 of the BMPS (The Scheduling and Dispatch Process) is to describe the normal process. This addresses the everyday uncertainty of demand and wind forecasts and events such as unit trips. The inputs to this process, and the publications that result from this process, are also documented in sections 3 and 6 respectively.</p> <p>The intent of the exceptions section is to identify those events in which the inputs, processes and publications differ from the norm. Given these are infrequent events we have not documented their associated process in the BMPS and we only report by exception.</p> <p>As noted above it is our intention to review the events defined as exceptions as we gain experience of the revised SEM arrangements.</p> |

Publications

The BMPS is required to be a point of reference for the other publications where information about the scheduling and dispatch process can be found. As the reporting data for the revised SEM arrangements are not yet live, this section of the BMPS provided a list of the reports that we expect to be available.

We developed three sample operational process documents to support the consultation, and included links to these in the consultation.

There are likely to be over one hundred individual publications, therefore we sought feedback on the extent that the BMPS should describe and link to these individually given their potentially evolving nature and the need to maintain an up to date BMPS. We also sought views on the option of the BMPS simply referring to a Publications page on a website where individual reports can be accessed with the reports and links being kept up to date by the TSOs.

We also included a draft of our 'Methodology for System Operator and Non-Marginal Flagger' and sought feedback on the form and content of this methodology in meeting the requirements of relevant market participants.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
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| H1 | Most respondents who commented on this section welcomed the proposed approach to providing publications on a website. The need to maintain up to date versions of these documents was highlighted. | We are developing a website solution that will allow publication of relevant scheduling and dispatch documents (such as Operational Processes and constraint updates) and provide links to other relevant reporting locations (such as the Balancing Market Interface). We are also considering how to best notify interested parties of updates to information on this website. |
| H2 | A number of respondents requested that the BMPS contain a full list and details of all relevant publications. | Our proposal is that we provide an overview of the sources of publications and types of publications in the BMPS but that the publications themselves are provided on a website or linked to from a website. Maintaining a list of potentially hundreds of reports in the BMPS would become unwieldy especially as any BMPS |

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| | | update must undergo a consultation process. We believe that a website will provide a more accessible source of information and can be more readily kept up to date by the TSOs. |
| H3 | A number of respondents requested additional reports and reporting of information closer to real-time. | <p>The BMPS includes a link to a document describing the reports being delivered under the Balancing Market Interface ('I-SEM Technical Specification (ITS) Volume C: Balancing Market'). See here.</p> <p>Based on previous industry requests we are seeking to make a number of these reports available closer to real-time.</p> <p>The delivery of additional reports is outside of the scope of this BMPS consultation. Any requests for additional reporting functionality should be raised via the I-SEM project query address: I-SEMproject@sem-o.com</p> |
| H4 | One respondent commented on the management of REMIT data and raised issues with consistency and timing of this data. | <p>We acknowledge that the publication of REMIT data has been late on a few occasions. Any specific comments on the quality of the data should be sent directly to us at the following address: outageplanning@eirgrid.com</p> |
| H5 | A number of respondents commented on the importance of providing up to date constraint information. | <p>As we indicated in the consultation version of the BMPS, we are proposing to publish a weekly update of constraints (currently this is monthly) with ad-hoc updates to inform participants of any dynamic constraints and to assist in understanding the scheduling and dispatch decisions that we take.</p> <p>We are currently developing these additional reporting arrangements.</p> |
| H6 | One respondent suggested the development of Key Performance | The development of TSO related KPIs is a matter for the RAs. |

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| | Indicators related to the TSOs' provision of information. | |
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Sample Operational Processes

We published three sample Operational Processes which set out the end to end activities related to the following tasks:

- Demand Forecasting
- Long Term and Short Term Scheduling
- Issue Dispatch Instructions

We sought feedback on usefulness of these documents in providing additional, more detailed information on the processes described at a higher level in the BMPS itself.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
|------|---|---|
| I1 | The majority of respondents that commented on the Operational Processes welcomed their publication. | It is our intention to publish a more comprehensive suite of Operational Processes before market trial commences. |
| I2 | A number of respondents noted that the TSOs should notify participants of updates to these documents. | We are developing a website solution to allow publication of these Operational Processes and our considering how to best notify interested parties of updates to these documents. |
| I3 | Long Term & Short Term Scheduling document should also include process details on the Real-Time Dispatch run. | These are separate Operational Processes: 'Long Term & Short Term Scheduling' and 'Issue Dispatch Instructions'. The latter process contains a 'process map' of the interaction between the run types. |
| I4 | Issue Dispatch Instruction step 26 should be included in section 4 of the BMPS | We have referenced the production of 'merit orders' in the BMPS as one of the inputs to any dispatch decision that does not come directly from the Indicative Operational Schedules. We believe that the details of the merit orders are best left in the operational process rather than the BMPS. |
| I5 | One respondent commented on the Demand Forecasting process that Step 1 shows initiation at 06:00. The respondent queried if this was linked | While the process is shown as being initiated at 06:00, the forecasting process is continuous and each schedule will take into account the latest |

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| | to the current trading day and hence should change to 23:00. | conditions. |
| 16 | One respondent queried if there are units that need >1 hour to desync? | Yes, there are units that take greater than 1 hour to get from minimum load to de-sync. |
| 17 | One respondent had a number of queries relating to the Long and Short Term Scheduling process: <ul style="list-style-type: none"> 1. No mention of RTC failure 2. SO-SO trade pricing 3. Inclusion of TOD data as an input | <ul style="list-style-type: none"> 1. This process does not describe the process to be followed in the event of failure of any of the scheduling runs. 2. As noted elsewhere in the BMPS, the SO Trading arrangements are yet to be agreed. 3. TOD is an input to the scheduling run – it is part of the BMI data. |

SO & NM Flagging Methodology

We published a draft of the Methodology for Determining System Operator and Non-Marginal Flags and sought feedback on the form and contents of this document.

Comments Received and Our Response

| Ref. | Comment Received | Our Response |
|------|---|--|
| J1 | A number of respondents commented that the governance of this methodology should lie within the BMPS thus allowing participants an opportunity to respond to proposed changes | <p>The governance arrangements for this document have been as being under the Trading and Settlement Code. TSC Part B Appendix N, paragraph 4 and 5:</p> <p><i>4. The System Operators shall publish a “Methodology for determining System Operator and Non-Marginal Flags” including detailed information on how System Operator Flags and Non-Marginal Flags are determined for each Operational Constraint and Unit Constraint in accordance with paragraphs 1-3, including the process for determining whether an Operational Constraint is binding and the process for determining whether a Generator Unit is bound by a Unit Constraint or a binding Operational Constraint.</i></p> <p><i>5. The System Operators shall publish updates to the “Methodology for determining System Operator and Non-Marginal Flags” as soon as practicable to reflect relevant changes to Operational Constraints, Unit Constraints, underlying processes related to the determination of the Indicative Operations Schedule, or any other relevant change.</i></p> <p>It is intended that compliance with the flagging rules under the TSC, and further described in the methodology, would form part of an annual audit.</p> |

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| J2 | A number of respondents commented on the treatment of DSUs/AGUs/Storage Devices in capacity scarcity events and suggested the default application of the System Services Flag to avoid unintended exposure in a capacity scarcity event. | <p>The System Services Flagging rule gives effect to the respondents' suggestions but only when they are required for Replacement Reserve per TSC Part B Appendix N, Paragraph 2:</p> <p><i>2. For each Imbalance Pricing Period, φ, the System Operators shall use information from the most recent Indicative Operations Schedule to identify whether a Generator Unit's scheduled output is bound by the presence of an Operational Constraint relating to the provision of Replacement Reserve, and where they determine that the Generator Unit is so bound, shall set the System Service Flag ($FSS_{u\varphi}$) for that Generator Unit, u, equal to zero for that Imbalance Pricing Period, φ. Otherwise, the System Operators shall set the System Service Flag ($FSS_{u\varphi}$) for that Generator Unit, u, equal to one for that Imbalance Pricing Period, φ.</i></p> |
| J3 | There were a number of comments related to the clarity of the document with further information requested. | We will review and publish an updated version of this methodology prior to market trial. |

Recommendation

We believe that this BMPS presents an informative and comprehensive view of the way that we expect to schedule and dispatch the system under the revised SEM arrangements. When viewed alongside associated publications (a sample of which were provided as part of the consultation) it will provide a high degree of transparency of the scheduling and dispatch processes. It also provides a layered approach to the provision of technical detail making it accessible to a broad range of industry participants.

We have addressed the consultation feedback in a comprehensive manner in this document and in updates to the BMPS. We have also made updates to the BMPS based on developments that have taken place since the consultation on 7 April 2017. This BMPS (Version 1.0 of 8 September 2017) presents our current best view of the scheduling and dispatch process under the revised SEM arrangements recognising that there remain some areas of outstanding process design and implementation that we will not be able to document until closer to go-live (these are set out in the BMPS).

However, providing a published version of the BMPS at this time, well in advance of go-live, will assist market participants understanding of the processes and their preparation for, and involvement in, market trial.

As noted in our response to the comments received, we will consider further updates of the approved BMPS closer to go-live of the revised SEM arrangements in line with the requirements in the TSOs' Licences to maintain the BMPS as an accurate and up-to-date a description of the scheduling and dispatch process as is practicable. We will also consult on updates in accordance with the TSOs' Licences.

We therefore submit this Review of Responses to the 7 April 2017 Balancing Market Principles Statement Consultation paper and the Balancing Market Principles Statement Version 1.0 of 8 September 2017 to the RAs for approval of the BMPS to allow its publication in October 2017 (I-SEM Level 2 Milestone, #15).