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| **MODIFICATION PROPOSAL FORM** |
| **Proposer***(Company)* | **Date of receipt***(assigned by Secretariat)* | **Type of Proposal***(delete as appropriate)* | **Modification Proposal ID***(assigned by Secretariat)* |
| **SSE** | **06 February 2019** | **Standard**  | **MOD\_06\_19** |
| **Contact Details for Modification Proposal Originator** |
| **Name** | **Telephone number** | **Email address** |
| **Stacy Feldmann** |  | **Stacy.feldmann@sse.com** |
| **Modification Proposal Title** |
| **Determination of the Marginal Energy Action Price where no energy is available in the Net Imbalance Volume Direction**  |
| **Documents affected***(delete as appropriate)* | **Section(s) Affected** | **Version number of T&SC or AP used in Drafting** |
| **Trading & Settlement Code Part B** | **E.3.4** | **Version as per the new SEMO website** |
| **Explanation of Proposed Change***(mandatory by originator)* |
| This is an amendment to the selection of the Marginal Energy Action Price as currently determined under the Code. At present there are a higher number of imbalance pricing periods in which no offers or bids are available to set PMEA (i.e. actions with an Imbalance Price Flag of 1) that are on the correct side of the energy imbalance. Looking at a sample set of days below illustrates this – the table shows whether PMEA was set by bids in the event of a short system, or offers in the event of a long system:

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| --- | --- | --- | --- | --- | --- |
| **PMEA Status** | **19/01/2019** | **21/01/2019** | **22/01/2019** | **23/01/2019** | **24/01/2019** |
| Opposite NIV | **24%** | **24%** | **15%** | **14%** | **24%** |
| Reflects NIV | **73%** | **67%** | **76%** | **63%** | **44%** |
| No Energy | **3%** | **8%** | **8%** | **23%** | **24%** |
| Missing Data | **1%** | **1%** | **1%** | **1%** | **7%** |

Ideally, the number of periods in which the imbalance price is being set by a unit providing energy counter to the Net Imbalance Volume of the System should be very limited, but in practice, a large number of Imbalance Pricing Periods (and Imbalance Settlement Periods due to averaging) are being set at a level that isn’t providing an effective signal for participants to balance their positions. The clearest example of this was on the 24th January, where expensive offers set prices that were not reflective of an all-island system that had an energy surplus. This triggered large difference payments on generators, but also provided a signal to market participants that wasn’t reflective of the System Operator’s requirements and would have triggered large dispatch balancing costs as the TSO was forced to bid off plant that was committed against an energy surplus.However, this signal would not be limited to extreme events – the table below provides a comparison of the imbalance price against the Market Back Up Price for both GB and SEM from October 1st to January 10th.

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| **SYSTEM POSITION**  | **% OF TOTAL PERIODS (ISEM)** | **% OF PERIODS WITH WRONG INCENTIVE (ISEM)** | **% OF TOTAL PERIODS (GB)** | **% OF PERIODS WITH WRONG INCENTIVE (GB)** |
| **LONG** | **39.43%** | **4.90%** | **57.07%** | **2.99%** |
| **SHORT** | **60.57%** | **47.88%** | **42.93%** | **4.22%** |

 This shows that:* The Single Electricity Market is being left structurally short;
* The commercial outcomes for holding an open energy position are skewed;
* Participants that are long in a long system will be penalised over 95% of the time;
* Participants that are short in a short system will only be penalised 52% of the time;
* The GB system has incentives that are close to symmetrical, whereas SEM does not

The skew of outcomes is shown more clearly in the stylised graph below – there is more volatility in Single Electricity Market outcomes that may reflect the smaller size of the system, but there is also a bias towards taking a short position relative to a comparable imbalance pricing regime.This modification attempts to address one of the reasons that this asymmetry exists. The existing pricing mechanics will use offers or bids if they are energy flagged regardless of whether they are on the correct side of the energy imbalance of the system as a whole. During the design phases, this was envisaged to take place in a small number of periods, but in market operation, this has not been the case.This modification would set the Marginal Energy Action Price with the Market Back Up Price as a reference if no energy (actions with an Imbalance Price Flag of 1) is available in the system direction. Currently, the Code is drafted as below:This would be modified to:***If QNIVφ > 0, PMEAφ = Max(PBOukφ, PMBUy) for all values of PBOukφ where FIPφ = 1; or******If QNIVφ < 0, PMEAφ = Min(PBOukφ, PMBUy ) for all values of PBOukφ where FIPφ = 1***To provide a clear example of how this would function, a pricing period where this would apply is shown below – during this imbalance settlement period, the system was 461MW long. However, no bids were available with an Imbalance Price Flag.Using the current T&SC approach, the minimum price was taken which was €290/MWh. Under the modification approach, the Market Back Up Price of €69.05/MWh would be taken as PMEA. If energy was available on the bid stack (or offer stack in a short system), this calculation would not typically apply because the minimum function would select an energy offer with a price that is above or below the Market Back Up Price. The PMEA that did not reflect system direction would have repriced bids that were flagged, with the net result within this imbalance settlement period being an imbalance price of €128.43/MWh, which is not in line with the fundamental conditions of the system during the period (461MW of excess energy). |
| **Legal Drafting Change***(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* |
| Modify Section E.3.4.2 to:***If QNIVφ > 0, PMEAφ = Max(PBOukφ, PMBUy) for all values of PBOukφ where FIPφ = 1; or******If QNIVφ < 0, PMEAφ = Min(PBOukφ, PMBUy ) for all values of PBOukφ where FIPφ = 1*** |
| **Modification Proposal Justification***(Clearly state the reason for the Modification)* |
| By applying this rule, the incentive to exacerbate the system imbalance, or hold a position that is in the wrong direction to the Net Imbalance Volume is removed from participants. We believe that this modification would:* Reduce the bias towards leaving the system short that is currently observed;
* Reduce the incentives for market participants to exacerbate a short system;
* Reduce the Dispatch Balancing Costs faced by the TSO when balancing the system;
* Partially address pricing events such as those experienced on the 24th January;
 |
| **Code Objectives Furthered***(State the Code Objectives the Proposal furthers, see Section 1.3 of T&SC for Code Objectives)* |
| (b) to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner; (c) to facilitate the participation of electricity undertakings engaged in the generation, supply or sale of electricity in the trading arrangements under the Single Electricity Market;(d) to promote competition in the Single Electricity Market;1. to provide transparency in the operation of the Single Electricity Market;
2. to promote the short-term and long-term interests of consumers of electricity on the island of Ireland with respect to price, quality, reliability, and security of supply of electricity.
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| **Implication of not implementing the Modification Proposal***(State the possible outcomes should the Modification Proposal not be implemented)* |
| Parties will continue to face asymmetrical incentives towards holding an open energy imbalance position which is not in line with the Market Design as originally envisaged. This bias could result in inefficient outcomes for generators and suppliers and inefficient trading decisions taken within the system as a whole.The System Operator will continue to incur Dispatch Balancing Costs that are substantially more expensive than the prevailing energy cost of balancing the system – they will need to pay CPREMIUM or CDISCOUNT by reference to an imbalance settlement period price that is far removed from the price of the actual actions that were required to balance the Net Imbalance Volume.Drawing on the example cited above, during this period 462 MW of bid actions were taken by the TSO which would have been buying back their power at the imbalance price of €128.43/MW with the difference between the imbalance price and their bid price being refunded to the units through the Discount Component. This is ultimately borne by the Dispatch Balancing Costs budget. Meanwhile – units over-delivering against a position would have received €128.43/MWh – a significant mark-up on the Day-Ahead market and a reward for deviating from their traded position.Under this proposal units being bid back would be buying at the market back-up price, in this instance €69.05/MWh with the Discount Component refunding them from this figure – essentially and saving of €32.38/MWh on the Discount Component. Conversely participants over-delivering would receive a lower price and not be rewarded for deviating from their traded position. This re-distributes the cost of balancing the system away from the Discount Component and onto participants who are contributing to the system imbalance. |
| **Working Group***(State if Working Group considered necessary to develop proposal)* | **Impacts***(Indicate the impacts on systems, resources, processes and/or procedures; also indicate impacts on any other Market Code such as Capacity Marker Code, Grid Code, Exchange Rules etc.)* |
| n/a | The Modification will have a systems impact in terms of applying this logic in pricing. |
| ***Please return this form to Secretariat by email to*** ***modifications@sem-o.com*** |

**Notes on completing Modification Proposal Form:**

1. **If a person submits a Modification Proposal on behalf of another person, that person who proposes the material of the change should be identified on the Modification Proposal Form as the Modification Proposal Originator.**
2. **Any person raising a Modification Proposal shall ensure that their proposal is clear and substantiated with the appropriate detail including the way in which it furthers the Code Objectives to enable it to be fully considered by the Modifications Committee.**
3. **Each Modification Proposal will include a draft text of the proposed Modification to the Code unless, if raising a Provisional Modification Proposal whereby legal drafting text is not imperative.**
4. **For the purposes of this Modification Proposal Form, the following terms shall have the following meanings:**

**Agreed Procedure(s): means the detailed procedures to be followed by Parties in performing their obligations and functions under the Code as listed in either Part A or Part B Appendix D “List of Agreed Procedures”. The Proposer will need to specify whether the Agreed Procedure to modify refers to Part A, Part B or both.**

**T&SC / Code: means the Trading and Settlement Code for the Single Electricity Market. The Proposer will also need to specify whether all Part A, Part B, Part C of the Code or a subset of these, are affected by the proposed Modification;**

**Modification Proposal: means the proposal to modify the Code as set out in the attached form**

**Derivative Work: means any text or work which incorporates or contains all or part of the Modification Proposal or any adaptation, abridgement, expansion or other modification of the Modification Proposal**

**The terms “Market Operator”, “Modifications Committee” and “Regulatory Authorities” shall have the meanings assigned to those terms in the Code.**

**In consideration for the right to submit, and have the Modification Proposal assessed in accordance with the terms of Section 2 of Part A or Chapter B of Part B of the Code (and Part A Agreed Procedure 12 or Part B Agreed Procedure 12) , which I have read and understand, I agree as follows:**

**1. I hereby grant a worldwide, perpetual, royalty-free, non-exclusive licence:**

* 1. **to the Market Operator and the Regulatory Authorities to publish and/or distribute the Modification Proposal for free and unrestricted access;**
	2. **to the Regulatory Authorities, the Modifications Committee and each member of the Modifications Committee to amend, adapt, combine, abridge, expand or otherwise modify the Modification Proposal at their sole discretion for the purpose of developing the Modification Proposal in accordance with the Code;**
	3. **to the Market Operator and the Regulatory Authorities to incorporate the Modification Proposal into the Code;**

**1.4 to all Parties to the Code and the Regulatory Authorities to use, reproduce and distribute the Modification Proposal, whether as part of the Code or otherwise, for any purpose arising out of or in connection with the Code.**

**2. The licences set out in clause 1 shall equally apply to any Derivative Works.**

**3. I hereby waive in favour of the Parties to the Code and the Regulatory Authorities any and all moral rights I may have arising out of or in connection with the Modification Proposal or any Derivative Works.**

**4. I hereby warrant that, except where expressly indicated otherwise, I am the owner of the copyright and any other intellectual property and proprietary rights in the Modification Proposal and, where not the owner, I have the requisite permissions to grant the rights set out in this form.**

**5. I hereby acknowledge that the Modification Proposal may be rejected by the Modifications Committee and/or the Regulatory Authorities and that there is no guarantee that my Modification Proposal will be incorporated into the Code.**