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| **MODIFICATION PROPOSAL FORM** |
| **Proposer** | **Date of receipt** | **Type of Proposal** | **Modification Proposal ID** |
| **SEMO** | **15 May 2012** | **Standard** | **Mod\_10\_12** |
| **Contact Details for Modification Proposal Originator** |
| **Name** | **Telephone number** | **Email address** |
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| **Modification Proposal Title** |
| **Amendment to Appendix P to ensure correct treatment of Interconnector Unit Offer Data** |
| **Documents affected** | **Section(s) Affected** | **Version number of T&SC or AP used in Drafting** |
| **T&SC** | **Appendix P** | **V.10 (and approved modification Mod\_18\_10V2)** |
| **Explanation of Proposed Change***(mandatory by originator)* |
| A scenario has been identified during System Integration Testing of the Intra Day Trading design which is not accounted for in Mod\_18\_10V2 and the associated Central Market System implementation. It arises where an Interconnector Unit submits a (P,Q) pair in the top left quadrant of bidding (i.e. positive P, negative Q, where the Interconnector Unit offers to pay to export), but does not submit a (P,Q) pair in the top right quadrant as part of its offer data. The red areas in Figure 1 below denote the areas of Interconnector Unit bidding which can cause SEM to have a Credit Exposure.  **Figure 1**During the credit cover sufficiency check, Available Credit Cover (ACC) is calculated and compared to the Offered Exposure at each Gate Window Closure (GWC). If the ACC is insufficient, the elements of COD that create an unsecured credit risk will be excluded at the relevant GWC. The remaining non-excluded (P,Q) pairs are then renumbered.An example of this is seen in Figure 2 below.  **Figure 2**In such a scenario, no export will be allowed for that Interconnector Unit (the blue striped area in Figure 2), based on its ACC, but an import may still be possible. If, as part of the Interconnector Unit’s offer, there are (P,Q) pairs in the top right quadrant of bidding (i.e. positive P, positive Q) , where the Interconnector Unit offers to pay to import, these will be renumbered and will be admissible as the Offered Modified PQ Pairs (as in Figure 2 above). The indices of these so renumbered Offered Modified PQ Pairs will be the *Included Interconnector Unit Offers Indices*. The way in which these indices are determined is set out in P.18.2.e of Mod\_18\_10V2. P.18.2.eii accounts for the case where there are excluded offers and the highest P index is negative or zero and within the set of Offered Modified PQ pairs there is no other PQ pair with a Price of zero, then a PQ pair is inserted with a Price of zero and a Q Quantity equal to the Quantity associated with the Price Quantity Pair contained in the Excluded Interconnector Unit Offers Indices having an index equal to the Largest Credit Exposure Quantity Index. This ensures that offers which have no credit exposure associated with them are not excluded. The similar case where the highest Q index in the excluded offers is negative or zero and within the set of Offered Modified PQ pairs there is no other PQ pair with a Quantity of zero is not accounted for in Mod\_18\_10V2 and it is this that is proposed to be amended by this modification. This would only be the case if there are no other offers in the top right quadrant and the Maximum Interconnector Unit Import Capacity is non-zero, as in Figure 3 below.  **Figure 3**Under Mod\_18\_10V2, usually when the ACC< Total Offered Exposure, and the offer curve is similar to that of Figure 2, only export offers are excluded and import offers are renumbered. However if the ACC<Total Offered Exposure and there are no offers in the right hand quadrant, as in Figure 3 above, all PQ pairs would be excluded, both import and export, as per Figure 4, even though the HLQ is non-zero and there is no credit risk to SEM for the import section.   **Figure 4**This modification proposes to amend this so that the treatment is as in Figure 5, whereby in this situation an additional PQ pair will be added to ensure that import is allowed.  **Figure 5** |
| **Legal Drafting Change***(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* |
| P.18 The Market Operator shall carry out the following steps for each Interconnector Unit u registered to Participant p, for which Price Quantity Pairs were Accepted during the corresponding Gate Window, in the order of priority as set out in paragraph P.17:1. The value of Remaining Available Credit Cover (RACCp) shall be calculated by the Market Operator as follows in respect of offered credit exposure for each Interconnector Unit u for which Price Quantity Pairs were Accepted during the corresponding Gate Window:

Where:* + - 1. ACCp is the Available Credit Cover for Participant p.
			2. IUEOEuhm is the Interconnector Unit Energy Offered Exposure for Interconnector Unit u in Trading Period h in respect of MSP Software Run m.
			3. IUCOEuhm is the Interconnector Unit Capacity Offered Exposure for Interconnector Unit u in Trading Period h in respect of MSP Software Run m.
			4. is the sum of all Trading Periods h in Trading Window τ.
1. If the resulting value of Remaining Available Credit Cover (RACCp) is less than zero, then the Market Operator shall make no adjustment to the Available Credit Cover (ACCp) value for Participant p and shall:
2. Identify, for each Trading Period h in the Trading Window τ, the set of Offered Modified Price Quantity Pairs for each Interconnector Unit u for which Price Quantity Pairs were Accepted during the corresponding Gate Window having Quantities less than or equal to the largest Quantity for which the product with the corresponding Price is negative as follows:

Where:1. denotes ‘for all’.
2. OfferedModifiedPQPairs denotes the set of Offered Modified Price Quantity Pairs.
3. : denotes ‘such that’.
4. Puhmj is the jth Offered Modified Price for Interconnector Unit u in Trading Period h, where the value of Quhmi is greater than or equal to the Quantity associated within the Low Limit Quantity point and the value of Quhmi is less than or equal to the Quantity associated within the High Limit Quantity point.
5. Quhmj is the jth Offered Modified Quantity for Interconnector Unit u in Trading Period h, where the value of Quhmi is greater than or equal to the Quantity associated within the Low Limit Quantity point and the value of Quhmi is less than or equal to the Quantity associated within the High Limit Quantity point.
6. is a subset of the set j of indices of the Offered Modified Price Quantity Pairs for Trading Period h of the MSP Software Run m for Interconnector Unit u where there is a credit exposure identified.
7. Calculate the Largest Credit Exposure Quantity Index for Interconnector Unit u in Trading Period h as the largest member of the set ouhm:

 1. Determine the set of Excluded Interconnector Unit Offers Indices (EIUOIuhm) for Interconnector Unit u in Trading Period h to include:
2. All Offered Modified Price Quantity Pairs where the index j of the Price Quantity Pair is less than or equal to the Largest Credit Exposure Quantity Index for the relevant Interconnector Unit u in Trading Period h; and
3. Each Quantity Axis Crossing Point, Price Axis Crossing Point, Low Limit Quantity point and High Limit Quantity point within the set of Offered Modified Price Quantity Pairs.
4. Where the set of Excluded Interconnector Unit Offers Indices (EIUOIuhm) for Interconnector Unit u in Trading Period h contains any elements, the Lower Operating Limit (LOLuh) for Interconnector Unit u in Trading Period h for the corresponding MSP Software Run m relating to the relevant Trading Day shall be set to zero.
5. Determine the set of Included Interconnector Unit Offers Indices (IIUOIuhm) for Interconnector Unit u in Trading Period h as follows:
6.

Where: ‘\’ denotes ‘not in’and {OfferedModifiedPQPairs} denotes the set of Offered Modified Price Quantity Pairs.1. If  and there is no Offered Modified Price Quantity Pair with a Price value which is equal to zero:
	1. An additional Price Quantity Pair shall be included within the set of Offered Modified Price Quantity Pairs with a Price set to zero and a Quantity equal to the Quantity associated with the Price Quantity Pair contained in the Excluded Interconnector Unit Offers Indices having an index equal to the Largest Credit Exposure Quantity Index.
	2. Such additional Price Quantity Pair shall be included such that the resulting set of Offered Modified Price Quantity Pairs shall be monotonically increasing in both Price and Quantity.
	3. The resulting index of the additional Price Quantity Pair shall be included in the set of Included Interconnector Unit Offers Indices (IIUOIuhm) for Interconnector Unit u in Trading Period h in respect of MSP Software Run m.

Where:* Puhm(J=LCEQIumh) is the Offered Modified Price for Interconnector Unit u in Trading Period h in respect of MSP Software m, where the index of the Price Quantity Pair is equal to the Largest Credit Exposure Quantity Index for Interconnector Unit u in Trading Period h.

iii. If  and there is no Offered Modified Price Quantity Pair with a Quantity value which is equal to zero:1. An additional Price Quantity Pair shall be included within the set of Offered Modified Price Quantity Pairs with a Quantity set to zero and a Price equal to the Price associated with the Price Quantity Pair contained in the Excluded Interconnector Unit Offers Indices having an index equal to the Largest Credit Exposure Quantity Index.
2. Such additional Price Quantity Pair shall be included such that the resulting set of Offered Modified Price Quantity Pairs shall be monotonically increasing in both Price and Quantity.
3. The resulting index of the additional Price Quantity Pair shall be included in the set of Included Interconnector Unit Offers Indices (IIUOIuhm) for Interconnector Unit u in Trading Period h in respect of MSP Software Run m.

Where:* Quhm(J=LCEQIumh) is the Offered Modified Quantity for Interconnector Unit u in Trading Period h in respect of MSP Software m, where the index of the Price Quantity Pair is equal to the Largest Credit Exposure Quantity Index for Interconnector Unit u in Trading Period h.
1. If the resulting value of Remaining Available Credit Cover (RACCp) is greater than or equal to zero, then the Market Operator shall set the value of Available Credit Cover (ACCp) value for Participant p equal to the value of the corresponding Remaining Available Credit Cover (RACCp) as follows:

1. If the resulting value of Remaining Available Credit Cover (RACCp) is less than zero, then the Market Operator shall make no adjustment to the latest calculated value of Available Credit Cover (ACCp) for Participant p.
2. Following the calculation of set of Excluded Interconnector Unit Offers Indices and set of Included Interconnector Unit Offers Indices, the Market Operator shall re-define the set of Offered Modified Price Quantity Pairs as follows:
3. The Offered Modified Price Quantity Pairs shall be re-defined to include only those Price Quantity Pairs with indices which correspond with those contained in the Included Interconnector Unit Offers Indices.
4. The indices of the remaining Modified Price Quantity Pairs shall be re-numbered in order of increasing index, starting at 1 (i.e. P1Q1, P2Q2, etc).
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| **Modification Proposal Justification***(Clearly state the reason for the Modification)* |
| This modification proposes an additional paragraph in Appendix P of Mod\_18\_10v2 and a corresponding update to the Central Market System in order to ensure that Interconnector Unit offers which do not pose a credit risk are included in all cases. |
| **Code Objectives Furthered***(State the Code Objectives the Proposal furthers, see Section 1.3 of T&SC for Code Objectives)* |
| This modification furthers Code Objective 1.3.1, namelyto facilitate the participation of electricity undertakings engaged in the generation, supply or sale of electricity in the trading arrangements under the Single Electricity Market; |
| **Implication of not implementing the Modification Proposal***(State the possible outcomes should the Modification Proposal not be implemented)* |
| If this modification is not implemented, in the case where an Interconnector Unit bids in the top left quadrant (i.e. bids to pay to export with a positive P and a negative Q) and fails the credit risk sufficiency check, it s offers to import may also be inadvertently excluded, even though they do not pose a credit risk. An alternative to making a Central Market System change is that Participants are aware of this issue and make sure that they submit a PQ pair in the top right quadrant to avoid it. |
| **Working Group***(State if Working Group considered necessary to develop proposal)* | **Impacts***(Indicate the impacts on systems, resources, processes and/or procedures)* |
| Not required.  | Would require a change to the Central Market System.  |
| ***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 Appendix D “List of Agreed Procedures”.**

**T&SC / Code: means the Trading and Settlement Code for the Single Electricity Market**

**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 the Code (and 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.**