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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)* |
| **Electricity Exchange** | **10 October 2019** | **Standard** | **Mod\_16\_19** |
| **Contact Details for Modification Proposal Originator** |
| **Name** | **Telephone number** | **Email address** |
| **Robert Mc Carthy** | 1. **9696700**
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| **Modification Proposal Title** |
| **Codification of TSO FNDDS Methodology and System Service Flag for DSU Settlement** |
| **Documents affected***(delete as appropriate)* | **Section(s) Affected** | **Version number of T&SC or AP used in Drafting** |
| **T&SC Part B & Glossary** | **F.2.7** |  |
| **Explanation of Proposed Change***(mandatory by originator)* |
| The Trading and Settlement Code contemplates a value for Demand Side Non-Delivery Percentage (FNDDS) which is submitted by the System Operators to the Market Operator (F.2.7) for use in the settlement of reliability options for demand side units (DSUs). This variable is crucial in determining the level of fulfilment of the reliability option where the strike price is exceeded and consequently, the level of difference charges due by DSUs. The methodology for the calculation of this variable is not outlined in the Trading and Settlement Code, this constitutes a major governance concern for DSUs for a crucial variable with specific concerns being:* The system operator is not obliged to follow any particular methodology for calculating this under the T&SC;
* There is no obligation of the timeline for the system operators to calculate FNDDS;
* How resettlement is handled where the variable is not calculated prior to a settlement run; and
* There is no clear process for raising modification to the methodology.

Electricity Exchange note the publication of the document [Note for Participants on FNDDS Calculation Methodology](https://www.sem-o.com/documents/general-publications/Note-for-Participants-on-FNDDS-Calculation-Methodology.pdf) on the SEMO website on 30/11/2018. This document outlines a methodology for the calculation for FNDDS which provides further clarity on the calculation which was welcomed. However, this document sits outside of the governance of the T&SC and while it notes that the process is to be completed by initial settlement, it does not place an obligation on the System Operators to perform the calculation before this nor does it provide necessary clarity on resettlement is handled where the variable is not calculated prior to initial settlement. Furthermore, it was noted as part of the actions of working group meeting 2 for Mod\_32\_18 that DSUs were not currently exempted from difference charges where the DSU was providing system services in the same way that other generator units are. Furthermore, there was an action from that working group to alter the FNDDS calculation to include provisions for incorporating the system service flag to reduce DSU difference charges when providing appropriate services in the same manner as other generators. This modification seeks to:1. Codify the FNDDS calculation in the T&SC to clarify related obligations and governance; and
2. Incorporate the system service flag into the FNDDS calculation.

Finally, as the values involved in calculating FNDDS are held by the Market Operator, the modification seeks to clarify the obligation as being a Market Operator obligation rather than a System Operator obligation.  |
| **Legal Drafting Change***(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* |
| F.2.7 Capacity Market DataF.2.7.1 The System Operators shall submit to the Market Operator the following data for each Capacity Market Unit, Ω, in each Imbalance Settlement Period, γ, in accordance with Appendix M “Capacity Market Data Transactions”:* + - * 1. The Capacity Quantity (qCΩn) with Primary or Secondary Trade Flag;
				2. The Commissioned Capacity Quantity (qCCOMMISSΩγ);
				3. The De-Rating Factor (FDERATEΩ);
				4. The Gross De-Rated Capacity Quantity (qCDERATEGΩγ);
				5. The Annual Stop-Loss Limit Factor (FSLLAn);
				6. The Billing Period Stop-Loss Factor (FSLLBn);
				7. The Capacity Payment Price (PCPΩn); and
				8. The Capacity Duration Exchange Rate (XRCDn).

F.2.7.2 The Market Operator shall calculate the Demand Side Non-Delivery Percentage for each Capacity Market Unit, Ω which represents one or more Demand Side Units, in each Imbalance Settlement Period, γ, as follows:If PIMBγ ≤ PSTRm, or if QCOBΩγ = 0, then FNDDSΩγ = 0, otherwise:Where:* + 1. QCOBΩγ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;
		2. QDLFuγ is the Loss-Adjusted Dispatch Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;
		3. QEXuγ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;
		4. PIMBγ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);
		5. PSTRm is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;
		6. DISP is the Imbalance Settlement Period Duration;
		7. FSSuγ is the System Service Flag for Generator Unit, u, in Imbalance Settlement Period, γ; and
		8. is a summation over all Generator Units, u, which comprise the Capacity Market Unit, Ω.

Glossary (excerpt):

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| Variable |  | Demand Side Non-Delivery Percentage | The Demand Site NonDelivery Percentage for a Capacity Market Unit, Ω, which represents one or more Generator Units, u, that are Demand Side Units, in an Imbalance Settlement Period, γ, representing the extent to which the Market Operator determines that the Obligated Capacity Quantity was not delivered through the Demand Side Unit’s response to a Dispatch Instruction in accordance with F.2.7.2 | Factor |

Appendix M (excerpt):* 1. Introduction
		+ 1. This Appendix M outlines the detailed Data Record requirements for Data Transactions sent by the System Operators to the Market Operator, which are not defined in other Appendices, which are required for the settlement of the Capacity Market, and the associated high-level Data Transaction Submission Protocols.
	2. Data Transactions
		+ 1. The Data Transactions in this Appendix M include:
				1. The Contract Register Data;
				2. The Commissioned Capacity Quantity (qCCOMMISS);
				3. The De-Rating Factor (FDERATE); and
				4. The Gross De-Rated Capacity Quantity (qCDERATEG).
			2. Each Data Record in this Appendix M which contains Currency amounts will be denominated in the Participant’s designated Currency.
	3. Data Transaction and Data Records

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| **Modification Proposal Justification***(Clearly state the reason for the Modification)* |
| This modification is intended to increase transparency on the calculation of FNDDS and consequently the settlement of reliability options for DSUs. It is also intended to implement the agreed action from working group meeting 2 of Mod\_32\_18 to include the system service flagging arrangements in FNDDS to mirror those of non-DSU generators and thereby reduce undue discrimination against DSUs in reliability option settlement.  |
| **Code Objectives Furthered***(State the Code Objectives the Proposal furthers, see Section 1.3 of Part A and/or Section A.2.1.4 of Part B of the T&SC for Code Objectives)* |
| Electricity Exchange that this modification will further the following code obligations(e) To provide transparency in the operation of the Single Electricity Market; and(f) to ensure no undue discrimination between persons who are parties to the Code.In the case of (e) this will be furthered through the clarification in the code of how a key settlement variable is calculated and in the case of (f) this will be furthered by introduction of system service flags to DSU capacity settlement in the same manner as other Generator Units.  |
| **Implication of not implementing the Modification Proposal***(State the possible outcomes should the Modification Proposal not be implemented)* |
| The modification comes in two parts:1. Codify the FNDDS calculation in the T&SC; and
2. Incorporate the system service flag into FNDDS calculation.

Failure to implement part 1 of the modification will prolong the lack of transparency for DSUs in their capacity market settlement obligations and therefore affect the ability of DSUs to accurately reflect risk in capacity market bids. As changes to FNDDS are not governed by the T&SC, it would also prolong the period where DSUs are exposed to potential changes to FNDDS which do not take place in the structured manner of T&SC modifications increasing risk of not just future capacity auctions but also for years where reliability options have already been issued. Failure to implement part 2 of this change would prolong a period of undue discrimination in reliability option settlement where exemptions to difference charges where the unit is providing appropriate system services are extended to generator units but not to DSUs.  |
| **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 Market Code, Grid Code, Exchange Rules etc.)* |
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| ***Please return this form to Secretariat by email to*** balancingmodifications@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.**