MODIFICATION PROPOSAL FORM			
Proposer *(Company)*	**Date of receipt** *(assigned by Secretariat)*	**Type of Proposal** *(delete as appropriate)*	**Modification Proposal ID** *(assigned by Secretariat)*
RAs	**5th April 2023**	**Standard**	**Mod_04_23**

Contact Details for Modification Proposal Originator		
Name	**Telephone number**	**Email address**
Gráinne Black, CRU		**gblack@cru.ie**

Modification Proposal Title
Modification to implement SEMC Decision SEM-23-029

Documents affected *(delete as appropriate)*	**Section(s) Affected**	**Version number of T&SC or Agreed Procedure used in Drafting**
T&SC Part B **Appendices Part B** **Glossary Part B**	F.18.6.2, F.18.6.3, F.18.6.4, F.18.6.4A, F.18.6.5, Appendix K 2, 13, table 10 and 11, Appendix N 2, Glossary definitions and List of Variables and Parameters	**T&SC V27.0**

Explanation of Proposed Change
(mandatory by originator)

This change will implement SEMC Decision SEM-23-029[1] to extend the exemption from exposure to Non-Performance Difference Charges to units that are available and in-merit to the extent that their available capacity meets their Obligated Capacity Quantity. The SEM Committee decided that "in-merit" should be defined based on a comparison of the Obligated Capacity Quantity Complex Price and the Imbalance Settlement Price. Availability is to be determined based on Actual Availability Quantity in the Trading and Settlement Code (TSC). This Modification will supersede Mod_12_22 in its entirety including the definition of in-merit in Mod_12_22.

Summary of Decision

- To extend the exemption from exposure to Non-Performance Difference Charges to "*units that are available and in-merit to the extent that their available capacity meets their Obligated Capacity Quantity*".
- A unit is considered in-merit where its Obligated Capacity Quantity Complex Price is less than or equal to the Imbalance Settlement Price, where, per the Glossary definition, the Obligated Capacity Quantity Complex Price '*is the price associated with the Price Quantity pair corresponding to the Obligated Capacity Quantity, submitted in the Generator's Complex Bid Offer Data, for each Period, h'*.
- Supersedes Mod_12_22 entirely.

Proposed Implementation

- Delete rather than amend the implementation of MOD_12_22 in Appendix N as the new approach does not involve an SO flagging process.
- Replace System Operator with Market Operator as the responsible party.
- Implement a Settlement solution by way of a manual Market Operator intervention in Chapter F.18.6 Calculation of System Service Difference Quantities.

[1] https://www.semcommittee.com/publications/sem-23-029-applicability-reliability-option-non-performance-difference-charges

- The approach targets the logic for the calculation of the criteria on a per unit basis which then feeds into the calculation of Non-performance Difference Quantities and Charges on a per Capacity Market Unit. Aggregation of the availabilities on that basis to implement the decision while respecting cumulative charges and stop-loss limits.
- Repurpose and redefine the System Service Flag (FSS).
- Remove reference to the System Service Flag (FSS) as an Imbalance Pricing Period variable – all calculations now are on Imbalance Settlement Period.
- Reference to FSS in the calculation of FNDDS (Demand Side Non-Delivery Percentage) will be maintained pending a separate housekeeping mod to remove this obsolete calculation.
- No change to Appendix E Data Publication however worth noting that the value of FSS may change between indicative and initial reporting.
- New variable $qAA_{\Omega\gamma}$ created to identify the subset of units that have applicable COD price greater than PIMB and should not be included in the availability check with QCOB. For Clarity it is specified in the Glossary that this variable is manually calculated by the MO and will not be included in Settlement Statements.
- $PCQCOB_{u\gamma}$ definition not changed but the name re-ordered correctly based on original Capacity definition.
- New entry for $PCQCOB_{u\gamma}$ added to the Glossary list of Variables and Parameters as that was missing in the prev Mod_12_22.
- Source Code: T&SC V27.0, Part B

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.18 DIFFERENCE CHARGES

F.18.6 Calculation of System Service Difference Quantities

F.18.6.1 For any Capacity Market Unit which represents an Interconnector, the provisions of section F.18.6 do not apply.

F.18.6.2 For each Imbalance ~~Pricing~~ Settlement Period, γ~~φ~~, the Market~~System~~ Operator~~s~~ shall determine a System Service Flag ($FSS_{u\gamma}$~~$FSS_{u\varphi}$~~) for each Generator Unit, u, in respect of that Imbalance ~~Pricing~~ Settlement Period, γ~~φ~~, as set out in ~~paragraph 2 of Appendix N: "Flagging and Tagging"~~F.18.6.4.

F.18.6.3 ~~For each Imbalance Pricing Period, φ, the System Operators shall submit the System Service Flag ($FSS_{u\varphi}$) for all Generator Units, u, for that Imbalance Pricing Period, φ, to the Market Operator in accordance with Appendix K: "Other Market Data Transactions".~~Intentionally blank

F.18.6.4 ~~If the System Service Flag ($FSS_{u\varphi}$) for a Generator Unit has a value equal to zero for any Imbalance Pricing Period, φ, within the Imbalance Settlement Period, γ, the Market Operator shall set the System Service Flag ($FSS_{u\gamma}$) for that Generator Unit, u, in that Imbalance Settlement Period, γ, to a value equal to zero. Otherwise, the Market Operator shall set the System Service Flag ($FSS_{u\gamma}$) to a value equal to one for that Imbalance Settlement Period.~~

The Market Operator shall, for each Imbalance Settlement Period, γ, where a Generator unit, u, has an Obligated Capacity Quantity Complex Price ($PCQCOB_{u\gamma}$) less than or equal the Imbalance Settlement Price ($PIMB_{\gamma}$), calculate the Capacity Market Unit Actual Availability Quantity, $qAA_{\Omega\gamma}$, for each Capacity Market Unit, Ω, as follows:

$$qAA_{\Omega\gamma} = \sum_{u \text{ where } PCQCOB_{u\gamma} \leq PIMB_{\gamma}} (qAA_{u\gamma})$$

Where:

(a) $\sum_{u \text{ where } PCQCOB_{u\gamma} \leq PIMB_{\gamma}}$ is a summation over all Generator Units, u, in ~~which comprise~~ the Capacity Market Unit, Ω, where $PCQCOB_{u\gamma}$ is less than or equal $PIMB_{\gamma}$~~.~~, in that Imbalance Settlement Period, γ;

(b) $qAA_{u\gamma}$ is the Actual Availability Quantity for a Generator Unit, u, in an Imbalance Settlement Period, γ;

(c) $PCQCOB_{u\gamma}$ is the Obligated Capacity Quantity Complex Price for that Generator unit, u, in that Imbalance Settlement Period, γ; and

(d) $PIMB_{\gamma}$ is the Imbalance Settlement Price in an Imbalance Settlement Period, γ.

F.18.6.4A ~~For each Imbalance Settlement Period, γ, t~~The Market Operator shall set the System Service Flag ($FSS_{u\gamma}$) to zero for all Generator Units, u, associated with a Capacity Market Unit, Ω, where the Capacity Market Unit Actual Availability Quantity, $qAA_{\Omega\gamma}$, is greater than or equal to the Obligated Capacity Quantity, $QCOB_{\Omega\gamma}$, in an Imbalance Settlement Period, γ. Otherwise, the System Service Flag ($FSS_{u\gamma}$) for all Generator Units, u, associated with that Capacity Market Unit, Unit, Ω, will be set to one in the relevant Imbalance Settlement Period, γ.

F.18.6.5 The Market Operator shall calculate the System Service Difference Quantity ($QDIFFCSS_{uγ}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFCSS_{uγ} = Max((qAA_{uγ} \times DISP) - Max(QEX_{uγ}, QD_{uγ}), 0) \times (1 - FSS_{uγ})$$

where:

(a) $qAA_{uγ}$ is the Actual Availability Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(b) $QEX_{uγ}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $QD_{uγ}$ is the Dispatch Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d) DISP is the Imbalance Settlement Period Duration; and

(e) $FSS_{uγ}$ is the System Service Flag for Generator Unit, u, in Imbalance Settlement Period, γ.

APPENDIX K: OTHER MARKET DATA TRANSACTIONS

INTRODUCTION

1. This Appendix K outlines the detailed Data Record requirements for Data Transactions sent by the System Operator to Market Operator and by the Interconnector Administrator to the Market Operator, which are not defined in other Appendices, and the associated high-level Data Transaction Submission Protocols.

DATA TRANSACTIONS

2. The Data Transactions in this Appendix K include:

Data Transactions from System Operator to Market Operator

(a) System Parameters (FCLAF)

(b) Loss Adjustment Factors (FTLAF and FDLAF)

(c) Generator Unit Technical Characteristics

(d) Short Term Reserves (qSTR and qORR)

(e) System Operator Flags (FSO and~~,~~ FNM~~ and FSS~~)

(f) Demand Control (QDC)

(g) System Characteristics (FRQAVG and FRQNOR)

(h) Dispatch Instructions

(i) SO Interconnector Trades

(j) SO Interconnector Physical Notifications

(k) Annual Load Forecast

(l) Four Day Load Forecast

(m) Wind and Solar Power Unit Forecast

(n) Uninstructed Imbalance Parameters (FPUG, FDOG, FUREG, TOLMW, TOLENG)

(o) Testing Tariffs

(p) Strike Price Parameters (PCARBON, PFUELNG and PFUELO)

(p2) DS3 System Services Provider Flag

…….

System Operator Flags Data Transaction

13. The Data Records for the System Operator Flags Data Transaction are described in **Table 2**~~Table 10~~ and the Submission Protocol in **Table 3**~~Table 11~~.

Table 10 –System Operator Flags Data Transaction Data Records

Trading Day
Imbalance Pricing Period
Participant Name
Unit ID
System Operator Flag ($FSO_{u\varphi}$)
Non-Marginal Flag ($FNM_{u\varphi}$)
~~System Service Flag ($FSS_{u\varphi}$)~~

Table 11 – System Operator Flags Data Transaction Submission Protocol

Sender	System Operators
Recipient	Market Operator
Number of Data Transactions	One, containing a System Operator Flag ($FSO_{u\varphi}$) and~~,~~ a Non-Marginal Flag ($FNM_{u\varphi}$) ~~and a System Service Flag ($FSS_{u\varphi}$)~~ for each Generator Unit for the Imbalance Pricing Period.
Frequency of Data Transactions	Imbalance Pricing Period

First Submission time	After end of Imbalance Pricing Period
Last Submission time	Prior to Imbalance Price Calculation. As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error.
Permitted frequency of resubmission prior to last submission time	Unlimited
Valid Communication Channels	Type 3 (computer to computer)
Process for data validation	None

APPENDIX N: FLAGGING AND TAGGING

SYSTEM OPERATOR AND NON-MARGINAL FLAGGING

1. 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 with the exception of those Operational Constraints relating to upper MW limits on the Transmission System and where they determine that the Generator Unit is so bound, shall set the System Operator Flag ($FSO_{u\varphi}$) for that Generator Unit, u, equal to zero for that Imbalance Pricing Period, φ. Otherwise, the System Operators shall set the System Operator Flag ($FSO_{u\varphi}$) for that Generator Unit, u, equal to one for that Imbalance Pricing Period, φ.

2. Intentionally blank~~For each Imbalance Pricing Period, φ, the System Operators shall:~~

~~(1) where the Generator unit, u,~~

~~(1) is listed by the TSO in its latest published Operational Constraints Update as a resource providing Replacement Reserve; and,~~

~~(2) its Capacity Obligated Complex Price ($PCQCOB_{u\varphi}$) ≤ Strike Price ($PSTR_m$),~~

~~then the System Service Flag ($FSS_{u\gamma}$) for that Generator Unit, u, shall be set equal to zero for that Imbalance Pricing Period, φ.~~

~~Where:~~

~~(1) PCQCOB is the Capacity Obligated Quantity Complex Price for that unit in that Imbalance Pricing Period, φ.~~

~~(2) $PSTR_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ~~

~~(2) Where not covered by (i), the System Operators shall set the System Service Flag ($FSS_{u\varphi}$) for that Generator Unit, u, equal to one for that Imbalance Settlement Period~~

Glossary

Actual Availability Quantity for a Capacity Market Unit	means the sum of Actual Availability Quantity for all Generator Units, u, in a Capacity Market Unit, Ω, in an Imbalance Settlement Period, γ, ~~the sum of Actual Availability Quantities for all Generator Units, u, associated with a Capacity Market Unit~~ where Obligated Capacity Quantity Complex Price ($PCQCOB_{u\gamma}$) is less than or equal the Imbalance Settlement Price ($PIMB_{\gamma}$) as per F.18.6.4.
Obligated Capacity ~~Obligated~~ Quantity Complex Price	is the price associated with the Price Quantity pair corresponding to the Obligated Capacity ~~Obligated~~ Quantity, submitted in the Generator's Complex Bid Offer Data, for each Period, h.

System Service Flag	means ~~a~~ the flag used since [insert effective date] ~~to~~ in the calculation of Non-performance Difference Charges following the introduction of Mod_XX_23. ~~identify Generator Units that are bound by an Operational Constraint relating to specific system services as described in paragraph 2 of Appendix N.~~For clarity, this flag has been repurposed and is no longer associated with System Services.

Topic:	Element:	Long Name:	Definition/Description:	Units:
Variable	$qAA_{\Omega\gamma}$	Capacity Market Unit Actual Availability Quantity	The Actual Availability Quantity for a Capacity Market Unit, Ω, in an Imbalance Settlement Period, γ as calculated in F.18.6.4. For Clarity this flag will be manually calculated by the Market Operator and will not be included in Settlement Statements.	MW
Variable	~~$FSS_{u\varphi,}$~~ $FSS_{u\gamma}$	System Service Flag	The System Service Flag for a Generator Unit, u, in an ~~Imbalance Pricing Period, φ, or an~~ Imbalance Settlement Period, γ, ~~as applicable,~~ to identify units that are bound ~~by an Operational Constraint relating to specific system services.~~by the criteria set out in F.18.6.4.	Factor

Variable	$QDIFFCSS_{u\gamma}$	System Service Difference Quantity	The System Service Difference Quantity for a Generator Unit, u, in an Imbalance Settlement Period, γ, representing the proportion of the unit's Obligated Capacity Quantity which is deemed to be satisfied ~~through the~~ according to the criteria set out in F.18.6.54. ~~unit being identified as being bound by Operational Constraints relating to specific system services.~~	MWh
Variable	$PCQCOB_{u\gamma}$	Obligated Capacity Quantity Complex Price	The Obligated Capacity Quantity Complex Price for a Generator Unit, u, in and Imbalance Settlement Period, γ, corresponding to the unit's Obligated Capacity Quantity.	€

Modification Proposal Justification
(Clearly state the reason for the Modification)

The justification for the proposal is to implement SEMC Decision SEM-23-029 to extend the exemption from exposure to Non-Performance Difference Charges to units that are available and in-merit to the extent that their available capacity meets their Obligated Capacity Quantity.

The SEM Committee published a consultation paper (SEM-22-030[2]) in July 2022, regarding the applicability of Reliability Option Non-Performance Difference Charges (NPDCs) to available in-merit units. Feedback was requested from the TSOs and from market participants as to the circumstances in which Capacity Market Units can be available and in-merit, but not dispatched. The paper also set out several possible approaches to applying NPDCs to available in-merit units and requested stakeholders' views on these approaches, or others that they might identify. SEMC Decision SEM-23-029 set out the SEM Committee's decisions, having taken on board all feedback received.

The responses received to the consultation indicated a broad range of scenarios in which units may not be dispatched and hence subject to Non-Performance Difference Charges, despite being available and in-merit. In particular, the TSOs provided a detailed list of the scenarios that they had identified. The scenarios included those in which units were not dispatched due to constraints of different kinds, but also due to decisions taken by the TSOs during the Scheduling and Dispatch process.

The Consultation paper set out 4 options for the circumstances in which units should be exempt from NPDCs. The majority of respondents supported Option 4, which would remove exposure to NPDCs for "*units that are available and in-merit to the extent that their available capacity meets their Obligated Capacity*

[2] https://www.semcommittee.com/publications/sem-22-030-consultation-applicability-reliability-option-non-performance-difference

Quantity", with some supporting Option 3, which would remove exposure for *"units that are bound by any constraints that limit the potential output of a unit, and not just the Replacement Reserve constraint".*

Given that the approach of extending the exemption from exposure to NPDCs to "*units that are bound by any constraints that limit the potential output of a unit, and not just the Replacement Reserve constraint*" would still result in the exposure of units which are available and in-merit due to circumstances beyond their control, the SEM Committee decided to extend the exemption from exposure to NPDCs to "*units that are available and in-merit to the extent that their available capacity meets their Obligated Capacity Quantity*" .

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)*

Implication of not implementing the Modification Proposal *(State the possible outcomes should the Modification Proposal not be implemented)*
Not implementing this Modification Proposal would mean that the TSC would not reflect the policy decision set out in SEM-23-029.

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.)*
No	Implementation to be manual. No impact on other Codes.

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:**

   1.1 **to the Market Operator and the Regulatory Authorities to publish and/or distribute the Modification Proposal for free and unrestricted access;**

   1.2 **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;**

   1.3 **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.**