

Single Electricity Market

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| Final REcommendation ReportMod\_12\_19 system service flags for demand site units06 September 2019 |

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Document History

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| **Version** | **Date** | **Author** | **Comment** |
| 1.0 | 06 September 2019 | Modifications Committee Secretariat | Issued to Modifications Committee for review and approval |
| 2.0 | 13 September 2019 | Modifications Committee Secretariat | Issued to Regulatory Authorities for final decision |

Reference Documents

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| **Document Name** |
| [Trading and Settlement Code Part B](https://www.sem-o.com/rules-and-modifications/balancing-market-modifications/market-rules/TSC-Part-B.docx) |
| [Modification Proposal](https://www.sem-o.com/documents/market-modifications/Mod_12_19/Mod_12_19-SystemServiceFlagforDemandSideUnits.docx) |
| [Presentation](https://www.sem-o.com/documents/market-modifications/Mod_12_19/Mod_12_19Slides.pptx) |
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Table of Contents

[1. MODIFICATIONS COMMITTEE RECOMMENDATION 3](#_Toc18662465)

[**Recommended for approval – unanimous Vote** 3](#_Toc18662466)

[2. Background 3](#_Toc18662467)

[3. PURPOSE OF PROPOSED MODIFICATION 4](#_Toc18662468)

[**3A.) justification of Modification** 4](#_Toc18662469)

[**3B.) Impact of not Implementing a Solution** 4](#_Toc18662470)

[**3c.) Impact on Code Objectives** 4](#_Toc18662471)

[4. ASSESSMENT OF ALTERNATIVES 5](#_Toc18662472)

[5. impact on systems and resources 5](#_Toc18662473)

[6. Impact on other Codes/Documents 5](#_Toc18662474)

[7. MODIFICATION COMMITTEE VIEWS 5](#_Toc18662475)

[**Meeting 93 – 22 august 2019** 5](#_Toc18662476)

[8. Proposed Legal Drafting 5](#_Toc18662477)

[9. LEGAL REVIEW 5](#_Toc18662478)

[10. IMPLEMENTATION TIMESCALE 5](#_Toc18662479)

[1 Appendix 1: Mod\_12\_19 system service flag for demand site units 6](#_Toc18662480)

# MODIFICATIONS COMMITTEE RECOMMENDATION

## Recommended for approval – unanimous Vote

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| **Recommended for Approval by Unanimous Vote**  |
| Jill Murray (Chair) | Supplier Alternate | Approved |
| Alan Mullane | Assetless Member | Approved |
| William Carr | Generator Alternate | Approved |
| Joe Devlin | Generator Alternate | Approved |
| David Gascon | Generator Alternate | Approved |
| Kevin Hannafin | Generator Member | Approved |
| Mark Phelan | Supplier Alternate | Approved |
| Rochelle Broderick | Supplier Alternate | Approved |
| Robert McCarthy | DSU Alternate | Approved |
| Eamonn Boland | Supplier Alternate | Approved |

# Background

This Modification Proposal was raised by SEMO and was received by the Secretariat on 08th August 2019. The proposal was discussed and voted on at Meeting 93 on 22nd August 2019.

This proposal seeks to remove the current exclusion on the calculation of System Service Flag for Demand Side Units. This flag is not currently used to determine Capacity Non Delivery Difference Quantities and Charges for Demand Side Units as the Demand Side Non Delivery Percentage (FNDDS) is used, which is calculated by the TSOs based on a methodology which is determined and published separately from the Trading and Settlement Code. It is therefore also not currently determined under the Code or otherwise.

Discussions during the working group process for Mod\_32\_18 around the treatment of difference charges where a unit is bound by a constraint relating to system service provision led to an action to progress an approach whereby the System Service Flag could be used within the FNDDS methodology for DSUs so that any relief from difference charges where a unit is subject to a System Service Flag can be considered for DSUs.

This is in the context both of the existing approach to System Service Flagging for units bound by the presence of an Operational Constraint relating to the provision of Replacement Reserve (see TSC Appendix N paragraph 2) and also any potential future change to System Service Flagging were any additional Operational Constraints to be included under this rule.

Details of how System Service provision is treated in the context of delivery or non-delivery of capacity obligations for DSUs could be separately provided for within the FNDDS methodology; however, introducing the determination of the System Service Flagging within the Trading and Settlement Code would appear to carry a number of benefits as follows.

* Placing a Codified obligation on the TSOs to calculate FSS;
* The ability to easily ensure that the System Service Flagging approaches for DSUs and other units are equivalent or otherwise fair;
* Ensuring that there is no ambiguity as to whether a Trading and Settlement Code default rule does or doesn’t apply prior to the determination of FSS under an outside methodology; and
* Ensuring that FSS determination comes under Trading and Settlement Code governance in terms of how they are calculated and the process for their modification if required in future.

This proposal should not be considered to be assuming, fettering or pre-empting any particular changes to the FNDDS calculation methodology or methodology regarding the general determination of System Operator Flag by the System Operators. Rather, it is intended to allow for any subsequent changes to either or both of these as may be deemed appropriate as discussed during the working groups for Mod\_32\_18.

At the working groups it was acknowledged by SEMO and the working group at large that this Modification Proposal is worthy of consideration regardless of whether or not additional Operational Constraints related to System Services are subsequently included in the determination of FSS. An extract from the working group recommendation report related to the discussion around a potential proposal to introduce other Operational Constraints to FSS determination and how this could be applied to DSUs is as below:

*“SEMO confirmed that the proposed change is intended to apply equally across all Generator Units (including DSUs) and where required, an update could be made to the FNDDS calculation methodology to ensure this was the case. The Regulatory Authorities acknowledged this point and agreed that the solution should treat all Generator Units equally including DSUs.“*

# PURPOSE OF PROPOSED MODIFICATION

**3A.) justification of Modification**

This proposal seeks to provide clarity and to facilitate appropriate treatment of DSUs in relation to the application of System Service Flags so that these are available to the FNDDS methodology as applied to the calculation of charges for non-delivery on capacity obligations for the purpose of calculating difference charges for DSUs where they are bound by the presence of an Operational Constraint should this be deemed appropriate.

This is to allow for fair treatment of DSUs and to ensure that the appropriate governance applies in relation to System Service Flagging.

**3B.) Impact of not Implementing a Solution**

If this proposal is not implemented it will continue to be the case that no System Service Flag is calculated for DSUs under the Trading and Settlement Code so that the aforementioned facilitation of equitable treatment, in relation to non-delivery of capacity obligations, under Trading and Settlement Code governance will remain absent.

It could also be necessary to have a System Service Flag determined outside of the Trading and Settlement Code which would not carry Codified obligation on the TSOs to determine such flags for DSUs and it could also be unclear whether or not TSC default rules applied and could lead to unintended conflicts or ambiguities as to how the flags are determined.

**3c.) Impact on Code Objectiv****es**

* + - * 1. to provide transparency in the operation of the Single Electricity Market;

Provides transparency by placing the determination of System Service Flag for DSU under Trading and Settlement Code governance (as opposed to the potential alternative of capturing this within the FNDDS methodology).

* + - * 1. to ensure no undue discrimination between persons who are parties to the Code;

Ensures no undue discrimination between parties to the Code by facilitating equitable or otherwise fair treatment of Demand Side Units in relation to the treatment of exposure to charges for non-delivery of capacity obligations where the unit is bound by certain defined Operational Constraints.

# ASSESSMENT OF ALTERNATIVES

N/A

# impact on systems and resources

No impact on Market systems anticipated since this functionality already exists but is not currently applied.

Potential application of the FSS values is to the calculation of FNDDS which is carried out outside the Central Market Systems by the System Operators. As such, there is a potential subsequent impact on FNDDS methodology should it be considered appropriate to apply these flags therein.

# Impact on other Codes/Documents

N/A

# MODIFICATION COMMITTEE VIEWS

## Meeting **93 – 22 august 2019**

The proposer delivered a [presentation](https://www.sem-o.com/documents/market-modifications/Mod_12_19/Mod_12_19Slides.pptx) on this proposal which would allow for the calculation of System Service Flags (FSS) for Demand Side Units by the System Operators under the Code. Implementation would include the obligation to the TSO to continue to calculate FSS and provide for the application of Default rules within the Code as well as ensuring that the process to modify how FSS are determined, including the addition of any further constraints, is under the Code Modifications Process. A DSU Alternate confirmed it was a Modification Proposal resulting from a recommendation of Working Groups for Mod\_32\_18.

The Chairperson referred to the section in the legal drafting which disapplies provisions for Interconnectors and asked that SEMO reword this to reflect the same format as the equivalent text for Demand Side Units. SEMO Member confirmed that they were happy for this to be captured to aid clarity.

# Proposed Legal Drafting

As set out in Appendix 1 and minor legal drafting change as below.

F.18.6.1 For any Capacity Market Unit:

* + - * 1. Which represents a Demand Side Unit, the provisions of paragraphs F.18.6.5 to F.18.6.7 do not apply; and
				2. Which represents an Interconnector, the provisions of section F.18.6.2 to F.18.6.7 do not apply.

# LEGAL REVIEW

N/A

# IMPLEMENTATION TIMESCALE

N/A

# Appendix 1: Mod\_12\_19 system service flag for demand site units

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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)* |
| **SEMO** | **08/08/19** |  **Standard** | **Mod\_12\_19** |
| **Contact Details for Modification Proposal Originator** |
| **Name** | **Telephone number** | **Email address** |
| **Christopher Goodman** |  | **Christopher.Goodman@sem-o.com** |
| **Modification Proposal Title** |
| **System Service Flag for Demand Side Units** |
| **Documents affected***(delete as appropriate)* | **Section(s) Affected** | **Version number of T&SC or AP used in Drafting** |
| **T&SC Part B** | **Section F.18.6** | **Version 21** |
| **Explanation of Proposed Change***(mandatory by originator)* |
| This proposal seeks to remove the current exclusion on the calculation of System Service Flag for Demand Side Units. This flag is not currently used to determine Capacity Non Delivery Difference Quantities and Charges for Demand Side Units as the Demand Side Non Delivery Percentage (FNDDS) is used, which is calculated by the TSOs based on a methodology which is determined and published separately from the Trading and Settlement Code. It is therefore also not currently determined under the Code or otherwise.Discussions during the working group process for Mod\_32\_18 around the treatment of difference charges where a unit is bound by a constraint relating to system service provision led to an action to progress an approach whereby the System Service Flag could be used within the FNDDS methodology for DSUs so that any relief from difference charges where a unit is subject to a System Service Flag can be considered for DSUs. This is in the context both of the existing approach to System Service Flagging for units bound by the presence of an Operational Constraint relating to the provision of Replacement Reserve (see TSC Appendix N paragraph 2) and also any potential future change to System Service Flagging were any additional Operational Constraints to be included under this rule.Details of how System Service provision is treated in the context of delivery or non delivery of capacity obligations for DSUs could be separately provided for within the FNDDS methodology; however, introducing the determination of the System Service Flagging within the Trading and Settlement Code would appear to carry a number of benefits as follows. * Placing a Codified obligation on the TSOs to calculate FSS;
* the ability to easily ensure that the System Service Flagging approaches for DSUs and other units are equivalent or otherwise fair;
* ensuring that there is no ambiguity as to whether a Trading and Settlement Code default rule does or doesn’t apply prior to the determination of FSS under an outside methodology; and
* ensuring that FSS determination comes under Trading and Settlement Code governance in terms of how they are calculated and the process for their modification if required in future.

This proposal should not be considered to be assuming, fettering or pre-empting any particular changes to the FNDDS calculation methodology or methodology regarding the general determination of System Operator Flag by the System Operators. Rather, it is intended to allow for any subsequent changes to either or both of these as may be deemed appropriate as discussed during the working groups for Mod\_32\_18. At the working groups it was acknowledged by SEMO and the working group at large that this Modification Proposal is worthy of consideration regardless of whether or not additional Operational Constraints related to System Services are subsequently included in the determination of FSS. An extract from the working group recommendation report related to the discussion around a potential proposal to introduce other Operational Constraints to FSS determination and how this could be applied to DSUs is as below:*“SEMO confirmed that the proposed change is intended to apply equally across all Generator Units (including DSUs) and where required, an update could be made to the FNDDS calculation methodology to ensure this was the case. The Regulatory Authorities acknowledged this point and agreed that the solution should treat all Generator Units equally including DSUs.“* |
| **Legal Drafting Change***(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* |
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		6. 1. For any Capacity Market Unit:
				1. Which represents a Demand Side Unit, the provisions of paragraphs F.18.6.5 to F.18.6.7 do not apply; and
				2. Which represents an Interconnector, the following provisions of section F.18.6 do not apply.
			2. For each Imbalance Pricing Period, φ, the System Operators shall determine a System Service Flag (FSSuφ) for each Generator Unit, u, in respect of that Imbalance Pricing Period, φ, as set out in paragraph 2 of Appendix N: “Flagging and Tagging”.
			3. For each Imbalance Pricing Period, φ, the System Operators shall submit the System Service Flag (FSSuφ) for all Generator Units, u, for that Imbalance Pricing Period, φ, to the Market Operator in accordance with Appendix K: “Other Market Data Transactions”.
			4. If the System Service Flag (FSSuφ) 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 (FSSuγ) 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 (FSSuγ) to a value equal to one for that Imbalance Settlement Period.
			5. The Market Operator shall calculate the System Service Difference Quantity (QDIFFCSSuγ) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFCSS\_{uγ}=Max\left(\left(qAA\_{uγ}×DISP\right)-Max\left(QEX\_{uγ},QD\_{uγ}\right), 0\right)×\left(1-FSS\_{uγ}\right)$$where:* + - * 1. qAAuγ is the Actual Availability Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;
				2. QEXuγ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;
				3. QDuγ is the Dispatch Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;
				4. DISP is the Imbalance Settlement Period Duration; and
				5. FSSuγ is the System Service Flag for Generator Unit, u, in Imbalance Settlement Period, γ.
			1. The Market Operator shall recalculate the Tracked Difference Quantity (QDIFFTRACKΩγ) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK\_{Ωγ}=Min\left(QCOB\_{Ωγ}, QDIFFTRACK'\_{Ωγ}+\sum\_{u \in Ω}^{}QDIFFCSS\_{uγ}\right)$$where:* + - * 1. QCOBΩγ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;
				2. QDIFFTRACK’Ωγ is the Tracked Difference Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ, calculated in accordance with section F.18.5;
				3. QDIFFCSSuγ is the System Service Difference Quantity for Generator Unit, u, in Imbalance Settlement Period, γ; and
				4. $\sum\_{u \in Ω}^{} $is a summation over all Generator Units, u, which comprise the Capacity Market Unit, Ω.
			1. The Market Operator shall recalculate the Tracked Difference Quantity (QDIFFTRACKsγ) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK\_{sγ}=Min\left(QCOB\_{sγ}, QDIFFTRACK'\_{sγ}+\sum\_{u \in s}^{}QDIFFCSS\_{uγ}\right)$$where:* + - * 1. QCOBsγ is the Obligated Capacity Quantity for Trading Site, s, in Imbalance Settlement Period, γ;
				2. QDIFFTRACK’sγ is the Tracked Difference Quantity for Trading Site, s, in Imbalance Settlement Period, γ, calculated in accordance with section F.18.5;
				3. QDIFFCSSuγ is the System Service Difference Quantity for Generator Unit, u, in Imbalance Settlement Period, γ; and
				4. $\sum\_{u \in s}^{} $is a summation over all Generator Units, u, in the Trading Site, s.
 |
| **Modification Proposal Justification***(Clearly state the reason for the Modification)* |
| This proposal seeks to provide clarity and to facilitate appropriate treatment of DSUs in relation to the application of System Service Flags so that these are available to the FNDDS methodology as applied to the calculation of charges for non delivery on capacity obligations for the purpose of calculating difference charges for DSUs where they are bound by the presence of an Operational Constraint should this be deemed appropriate. This is to allow for fair treatment of DSUs and to ensure that the appropriate governance applies in relation to System Service Flagging.  |
| **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)* |
| * + - * 1. to provide transparency in the operation of the Single Electricity Market;

Provides transparency by placing the determination of System Service Flag for DSU under Trading and Settlement Code governance (as opposed to the potential alternative of capturing this within the FNDDS methodology).* + - * 1. to ensure no undue discrimination between persons who are parties to the Code;

Ensures no undue discrimination between parties to the Code by facilitating equitable, or otherwise fair treatment of Demand Side Units in relation to the treatment of exposure to charges for non delivery of capacity obligations where the unit is bound by certain defined Operational Constraints. |
| **Implication of not implementing the Modification Proposal***(State the possible outcomes should the Modification Proposal not be implemented)* |
| If this proposal is not implemented it will continue to be the case that no System Service Flag is calculated for DSUs under the Trading and Settlement Code so that the aforementioned facilitation of equitable treatment, in relation to non delivery of capacity obligations, under Trading and Settlement Code governance will remain absent.It could also be necessary to have a System Service Flag determined outside of the Trading and Settlement Code which would not carry Codified obligation on the TSOs to determine such flags for DSUs and it could also be unclear whether or not TSC default rules applied and could lead to unintended conflicts or ambiguities as to how the flags are determined. |
| **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.)* |
|  Not Required | No impact on Market systems anticipated since this functionality already exists but is not currently applied. Potential application of the FSS values is to the calculation of FNDDS which is carried out outside the Central Market Systems by the System Operators. As such, there is a potential subsequent impact on FNDDS methodology should it be considered appropriate to apply these flags therein. |
| ***Please return this form to Secretariat by email to*** balancingmodifications@sem-o.com |