Single Electricity Market Committee

Trading & Settlement Code

Annual Operational Parameters for 2016

Consultation Paper

SEM-15-070

29 September 2015

Introduction

The SEM Trading and Settlement Code (the Code) specifies that the Market Operator (SEMO) and the System Operators (TSOs) shall make reports to the Regulatory Authorities proposing values for the following four groups of parameters used in the settlement systems for each Year at least four months before the start of that Year. The groups of parameters concerned are:

1. Parameters for the determination of Required Credit Cover[1] (SEMO);

2. MSP Software Penalty Cost Parameters[2] (SEMO);

3. Parameters used in the calculation of Uninstructed Imbalances[3] (TSOs); and

4. Flattening Power Factor[4] (TSOs).

The Regulatory Authorities have now received the reports from SEMO and from the TSOs in respect of the values that they propose should apply for the Year 2016. The reports are attached to this paper. The purpose of this consultation is to seek views from interested parties on the proposals from SEMO and the TSOs.

The Settlement Recalculation Threshold (SRT) was consulted upon annually until 2009. The Settlement Recalculation Threshold is a figure which mandates the Market Operator to do a re-run if the Schedule Quantities or prices for a Unit on its own, or for the SEM as a whole, are shown to be in error by more than this percentage. Under paragraph 6.77 of the Code, "the Settlement Recalculation Threshold shall be proposed by the Market Operator from time to time and approved by the Regulatory Authorities". SEMO was of the view that it was appropriate to review the SRT on an annual basis in the initial years of the market; however SEMO does not propose altering the SRT from its current value of 3% for 2015. SEMO refer to the detailed and comprehensive analysis[5] performed on the SRT in 2009.

In accordance with paragraph 4.96 of the Code, the Market Operator shall make a report to the Regulatory Authorities proposing a value for the Annual Capacity Exchange Rate (ACER)[6] at least 15 Week Days before the start of 2016 and in advance of the first Capacity Period. Accordingly the ACER shall not form part of this Consultation.

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[1] See paragraph 6.174 of the Code
[2] See paragraph N.25 of the Code
[3] See paragraph 4.142 of the Code
[4] See paragraph M.30 of the Code
[5] See link to the consultation on the SRT for 2010
http://www.allislandproject.org/en/TS_Decision_Documents.aspx?article=1654400f-2bda-42d9-a18a-a6eef8caeaf3
[6] See Mod_03_14 Change in Timeline for Submission of MO Report on Annual Capacity Exchange Rate

The SEM Committee welcomes all comments on the proposals set out in the attachments to this paper.   The remainder of this paper contains a summary of the proposals. Respondents should review the attached reports which contain the analysis carried out by SEMO and the TSOs, rather than relying on this summary.

Comments should be sent, preferably in electronic form, to:

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The Exchange
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All comments received will be provided to SEMO or the TSOs as appropriate and may be published unless the respondent clearly indicates that the relevant comment is confidential.

All comments should be received by close of business on **Friday, 30 October 2015**. A final decision is then due to be published in November on the operational parameters to apply for the year 2016.

1. Parameters for the determination of Required Credit Cover

SEMO's report addresses the values that should apply for the following parameters in 2016.

− Fixed Credit Requirement for Generator Units and for Supplier Units -
  This is the amount of credit cover required to allow for payments that become due as a result of Settlement Reruns.

− Historical Assessment Period for the Billing Period -
  This is the number of Settlement Days prior to the issue of the latest Settlement Statement for Energy Payments over which a statistical analysis of a Participant's incurred liabilities (in relation to Energy Payments) shall be undertaken to support the forecasting of the future Undefined Potential Exposure for that Participant.

− Historical Assessment Period for the Capacity Period -
  This is the number of Settlement Days prior to the issue of the latest Settlement Statement for Capacity Payments over which a statistical analysis of a Participant's incurred liabilities (in relation to Capacity Payments) shall be undertaken to support the forecasting of the future Undefined Potential Exposure for that Participant.

− Analysis Percentile Parameter -
  This is the factor that determines the expected probability that the Actual Exposure for each Participant, once determined, will fall below the estimate of Undefined Potential Exposure (a value of 1.96 is equivalent to 95% confidence).

− Credit Cover Adjustment Trigger -
  This is the expected percentage change in future generation or demand which leads a Participant to report to SEMO that it should become an Adjusted Participant, rather than a Standard Participant and have its Credit Cover requirements calculated on the basis of its forecasts of future demand or generation.

  Note that, in the papers up to 2009, the value for the default Warning Limit was consulted upon. However the approval of Mod_54_08 set the default Warning Limit as 75% in the Code itself and therefore there is no requirement to consult on this value.

SEMO proposes that the values of these parameters in 2016 should be as follows:

Credit Cover Parameters	2015 value	2016 proposed
Fixed Credit Requirement for Generator Units including Interconnector Units	€5,000	€5,000
Fixed Credit Requirement for Netting Generator Units	€1,000	€1,000
Fixed Credit Requirement for Supplier Units (based on a rate of €8.77/MWh of average daily demand subject to a minimum value of €1,000 and a maximum of €15,000)	Min of €1,000 with max. of €15,000	Min of €1,000 with max. of €15,000
Historical Assessment Period for Billing Period	100 days	100 days
Historical Assessment Period for Capacity Period	90 days	90 days
Analysis Percentile Parameter	1.96	1.96
Credit Cover Adjustment Trigger	30%	30%

2. MSP Software Penalty Cost Parameters

The core algorithm of the MSP Software attempts to optimise for a non-linear mixed integer constrained objective with non-linear constraints. On occasions the mathematical problem posed may be infeasible (i.e. there will be no solution which will satisfy every constraint). In these cases, rather than return no answer, it is customary in numerical solutions to produce an answer where one or more of the constraints has been breached slightly. To enable this "slack variables" are introduced with suitably chosen coefficients to ensure that these constraints are only breached in the case of infeasibility. The MSP Penalty Cost Parameters relate to the following issues.

- Over-Generation MSP Constraint Cost - This is the parameter that sets the cost used by the MSP Software for reducing the generation to the level of demand.

- Under-Generation MSP Constraint Cost - This is the parameter that sets the cost used by the MSP Software for increasing the generation to meet the demand.

- Aggregate Interconnector Ramp rate MSP Constraint Cost - This is the parameter that sets the cost used by the MSP Software for breaching the Interconnector Ramp Rate.

- Energy Limit MSP Constraint Cost - This is the parameter that sets the cost used by the MSP Software for breaching the Energy Limit constraints.

- Tie-Breaking Adder - This is the value used by the MSP Software for determining which of two tied Price/Volume pairs to use in the case of a tie.

SEMO proposes that the values of these parameters in 2016 should be the same as in 2015 as follows:

MSP Software Penalty Cost Parameters	2015 value	2016 proposed
Over Generation MSP Constraint Cost	73	73
Under Generation MSP Constraint Cost	73	73
Aggregate Interconnector Ramp Rate Constraint Cost	292	292
Energy Limit MSP Constraint Cost	38	38
Tie-Breaking Adder	0.001	0.001
Maximum Export Available Transfer Capacity MSP Constraint Cost	100	100
Maximum Import Available Transfer Capacity MSP Constraint Cost	100	100

3. Parameters used in the calculation of Uninstructed Imbalances

The TSOs' report addresses the values that should apply for the following parameters in 2015:

- Tolerance band around the Dispatch Quantity –
  These tolerances are designed to provide a band around the Dispatch Quantity to which a Generator Unit is dispatched. The tolerance band is the maximum of the MW tolerance and the Engineering Tolerance multiplied by the Dispatch Quantity
  - the Engineering Tolerance, ENGTOL (where $0 \leq ENGTOL \leq 1$)
  - the MW Tolerance for each Trading Day t, $MWTOL_t$ (where $0 \leq MWTOL_t$);

- System per Unit Regulation, UREG –
  This is the factor that reflects the automatic response of a generating unit to variations in the system frequency (the governor "droop" setting, which is normally 4%);

- Discount for Over Generation –
  This is the element of the costs incurred by the generator when generating outside the tolerance band which it is not permitted to recover; and

- Premium for Under Generation –
  This is the element of the saving incurred by the generator when generating below the tolerance band which it is required to repay.

The values of these parameters proposed by the TSOs for 2015 are shown in the table below and are identical to those for 2014.

Uninstructed Imbalance Parameters	2015 value	2016 proposed
Engineering Tolerance	0.01	0.01
MW Tolerance	1	1
System per Unit Regulation	0.04	0.04
Discount for Over Generation	0.20	0.2
Premium for Under Generation	0.20	0.2
Discount for Over Generation for Interconnectors Under Test	0[7]	0
Premium for Under Generation for Interconnectors Under Test	0[8]	0

4. Flattening Power Factor

The TSOs' report addresses the value that should apply for the Flattening Power Factor ("**FPF**") in 2016. The Flattening Power Factor in the Loss of Load Probability Table Calculation has the objective of reducing the volatility in the Capacity Payments Mechanism.

Choosing an appropriate value for the FPF is a matter of striking an appropriate balance between retaining sufficient volatility to signal the need for availability in times of low margin and avoiding excessive volatility that would render the mechanism highly unpredictable. The attached report from the TSOs conveys their preference that the FPF is not changed at this time.

The TSOs are of the view that this value is appropriate, as it retains some volatility in the Ex-post payment to signal the need for availability in times of actual low margin and yet avoids excessive volatility in the Variable payment. The reasons behind this TSO Recommendation are more fully detailed in the paper on the FPF which accompanies this Consultation Paper. The TSOs propose a value of 0.35 for the FPF for 2016, a value which is unchanged from 2015.

The SEM Committee therefore welcomes comments on the report from the TSOs and on the proposed value of FPF for 2016.

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[7] Discount for Over Generation and Premium for Under Generation were set to zero for Interconnectors Under test since 2012 as per SEM-12-011

[8] Discount for Over Generation and Premium for Under Generation were set to zero for Interconnectors Under test since 2012 as per SEM-12-011