



Single Electricity Market Committee

**Trading & Settlement Code
Annual Operational Parameters for 2017**

Decision Paper

SEM-16-083

9th December 2016

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 five 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 Cover¹ (SEMO);
2. MSP Software Penalty Cost Parameters² (SEMO);
3. Annual Capacity Exchange Rate³ (SEMO);
4. Parameters used in the calculation of Uninstructed Imbalances⁴ (TSOs); and
5. Flattening Power Factor⁵ (TSOs).

In accordance with the Code, reports on parameters numbered 1-2 and 4-5 above were made available to the RAs by the TSOs and SEMO in August 2016. Subsequently, on the 21st September 2016, the RAs published the reports, in addition to a Consultation Paper⁶ SEM-16-057 summarising the reports on these parameters and seeking views on the TSOs' and SEMO's proposals. The Annual Capacity Exchange Rate will be determined in December 2016 in line with SEM Committee Decision (SEM-12-106).

The remainder of this paper contains the details of the proposals set out in the Consultation Paper, comments received, SEMO's response to these comments and the SEM Committee decision on the parameters to apply for 2017 Year as defined in the Code.

Comments from Respondents

The SEM Committee received one response to the consultation paper (SEM-16-057) from the following party:

- Power NI Energy Limited Power Procurement Business (PPB)

The response received is published with this decision paper

¹ See paragraph 6.174 of the Code

² See paragraph N.25 of the Code

³ See paragraph 4.96 of the Code

⁴ See paragraph 4.142 of the Code

⁵ See paragraph M.30 of the Code

⁶ SEM-14-086 http://www.allislandproject.org/en/TS_Current_Consultations.aspx?article=3859e058-5338-4540-b856-f9ed34da1f49

1. Parameters for the determination of Required Credit Cover

SEMO's report addressed the values that should apply for the following parameters in 2017:

- the Fixed Credit Requirement for Generator Units and for Supplier Units;
- the Historical Assessment Period for the Billing Period;
- the Historical Assessment Period for the Capacity Period;
- the Analysis Percentile Parameter;
- the Credit Cover Adjustment Trigger;
- the level of the Warning Limit;

The values of these parameters in 2016 and those proposed by SEMO for 2017 are shown in the table below:

Credit Cover Parameters	2016 value	2017 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%

Comments Received

PPB did not make any specific comments on the Credit Cover Parameters, however agreed that the existing values should be retained.

SEM Committee Decision

The SEM Committee has decided that the values for the Credit Cover Parameters for 2017 shall be as set out below (as proposed by SEMO). The SEM Committee is of the view that the parameters outlined below have shown to provide a balance between maintaining a low level of risk of bad debt in the SEM while not over burdening Market Participants with credit cover requirements which could be seen as a barrier to entry or a barrier to continuation of trade.

Credit Cover Parameter	2017
Fixed Credit Requirement for Generator Units	€5,000
Fixed Credit Requirement for Netting Generator Units	€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

Historical Assessment Period for Billing Period	100 days
Historical Assessment Period for Capacity Period	90 days
Analysis Percentile Parameter	1.96
Credit Cover Adjustment Trigger	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 Over-Generation MSP Constraint Cost;
- the Under-Generation MSP Constraint Cost;
- the Aggregate Interconnector Ramp rate MSP Constraint Cost;
- the Energy Limit MSP Constraint Cost;
- the Tie-Breaking Adder;

SEMO proposed that the values of these parameters in 2017 should be the same as in 2016.

MSP Software Penalty Cost Parameters	2016 value	2017 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

Comments Received

PPB did not make any specific comments on the MSP Software Penalty Cost Parameters, however agreed that the existing values should be retained.

SEM Committee Decision

The SEM Committee has decided that the values for the MSP Software Penalty Cost Parameters for 2017 shall be unchanged from those in 2016 as set out below.

MSP Software Penalty Cost Parameters	2017
Over-Generation MSP Constraint Cost	73
Under-Generation MSP Constraint Cost	73
Aggregate Interconnector Ramp rate MSP Constraint Cost	292
Energy Limit MSP Constraint Cost	38
Tie-Breaking Adder	0.001
Maximum Export Available Transfer Capacity MSP Constraint Cost	100
Maximum Import Available Transfer Capacity MSP Constraint Cost	100

3. Annual Capacity Exchange Rate

In the Consultation Paper the SEM Committee noted that pursuant to SEM Committee Decision Paper on Trading & Settlement Code Annual Operational Parameters for 2013 ([SEM-12-106](#)), the Annual Capacity Exchange Rate will be proposed to the RAs by SEMO in early December and will be published soon after that.

Comments Received

We received no comments on the Annual Capacity Exchange Rate.

SEM Committee Decision

The Annual Capacity Exchange Rate will be proposed to the RAs by SEMO in early December and will be published soon after that.

4. Parameters used in the calculation of Uninstructed Imbalances

The TSOs' report addressed the values that should apply for the following parameters in 2017:

- the Tolerance band around the Dispatch Quantity:
- the System per Unit Regulation, UREG -
- the Discount for Over Generation -
- the Premium for Under Generation -

The values of these parameters proposed by the TSOs for 2017 are shown in the table below and are identical to those for 2016.

Uninstructed Imbalance Parameters	2016	2017 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	0.20
Premium for Under Generation	0.20	0.20
Discount for Over Generation for Interconnectors Under Test	0	0
Premium for Under Generation for Interconnectors Under Test	0	0

Comments Received

PPB agrees that the current parameters for Uninstructed Imbalances should remain.

SEM Committee Decision

The Systems Operators are of the view, based on operational experience since the start of SEM, that the Uninstructed Imbalance parameters are providing adequate economic signals at present and that no change is currently warranted to these parameter values. The SEM Committee has decided that the values for the Uninstructed Imbalance Parameters for 2017 shall be the same as for 2016, as set out below.

Uninstructed Imbalance Parameters	2017
Engineering Tolerance	0.01
MW Tolerance	1
System per Unit Regulation	0.04
Discount for Over Generation	0.20
Premium for Under Generation	0.20
Discount for Over Generation for Interconnectors Under Test	0
Premium for Under Generation for Interconnectors Under Test	0

5. Flattening Power Factor

The TSOs' report addressed the value that should apply for the Flattening Power Factor in 2017. The Flattening Power Factor (FPF) in the Loss of Load Probability Table calculation has the objective of reducing the volatility in the Capacity Payments mechanism. The TSOs proposed the same value (0.35) for the Flattening Power Factor in 2017 as in 2016.

Comments Received

PPB welcomed the recognition by the TSOs that market participants seek to be available and that generator units do not readily react to ex-post capacity signal. PPB agrees that the current Flattening Power Factor should be retained.

SEM Committee Decision

Having reviewed the report from the TSOs it is clear that there is no support for making any changes to the Flattening Power Factor.

In particular the TSOs have put forward a the following reasons for not making any changes;

- It is very difficult to quantify how generators would respond to significant change in FPF by examining past behaviour
- Analysis carried out does tend to indicate that generators reaction to the capacity payment signal is minimal
- In general generator units tend to aim for high availability at all times as opposed to reacting to capacity payment signals associated with specific trading periods
- Increasing the volatility of Variable payments may undermine this outage planning and coordination process which currently works well for all parties.

As stated previously, 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.

Based upon the above, the SEM Committee has decided that the value for the Flattening Power Factor for 2017 shall remain at the same value as in 2016; that is, 0.35.