



# Single Electricity Market Committee

**Trading & Settlement Code**

**Annual Parameters**

**for 2010**

**Consultation Paper**

**SEM-09-097**

**16<sup>th</sup> September 2009**

## 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 six 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<sup>1</sup> (SEMO);
2. Settlement Recalculation Threshold<sup>2</sup> (SEMO);
3. MSP Software Penalty Cost Parameters<sup>3</sup> (SEMO);
4. Annual Capacity Exchange Rate<sup>4</sup> (SEMO);
5. Parameters used in the calculation of Uninstructed Imbalances<sup>5</sup> (TSOs); and
6. Flattening Power Factor<sup>6</sup> (TSOs).

The Regulatory Authorities have now received the reports from SEMO and from the TSOs in respect of the proposed values to apply for the Year 2010. The reports are attached to this paper. The purpose of this consultation is to seek views from interested parties on the SEMO and TSOs proposals. The Regulatory Authorities welcome all comments on the proposals set out in the attachment to this paper. The remainder of this paper contains a summary of the proposals, but respondents should review the attached reports, rather than relying on this summary.

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

Dana Kelleher  
Commission for Energy Regulation  
The Exchange  
Belgard Square North  
Tallaght  
Dublin 24  
Ireland  
[dkelleher@cer.ie](mailto:dkelleher@cer.ie)

and Jean Pierre Miura  
Northern Ireland Authority for Utility Regulation  
Queen's House  
14, Queen Street  
Belfast  
Northern Ireland  
BT1 6ER  
[jeanpierre.miura@niaur.gov.uk](mailto:jeanpierre.miura@niaur.gov.uk)

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<sup>1</sup> See paragraph 6.174 of the Code

<sup>2</sup> See paragraph 6.77 of the Code. Note that the Code specifies that the Settlement Recalculation Threshold shall be proposed by the Market Operator "from time to time", but it has become normal to review it annually.

<sup>3</sup> See paragraph N.25 of the Code

<sup>4</sup> See paragraph 4.96 of the Code

<sup>5</sup> See paragraph 4.142 of the Code

<sup>6</sup> See paragraph M.30 of the Code

All comments received will be provided to SEMO or to the TSOs as appropriate and may be published unless the respondent clearly indicates that the relevant comment is confidential and should not be provided to SEMO or to the TSOs or should not be published.

All comments should be received by 13<sup>th</sup> October 2009.

## 1. Parameters for the determination of Required Credit Cover

SEMO's report addresses the values that should apply for the following parameters in 2010:

- the 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;
- the 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;
- the 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;
- the 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);
- the 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; and
- the level of the Warning Limit – this is the default level of the Warning Limit which will apply if a Participant Fails to set its own. The Warning Limit is a parameter used to trigger the issuing of a Warning Notice by SEMO to a Participants whose Credit Cover Requirement is approaching its Posted Credit Cover.

The values of these parameters in 2009 and those proposed by SEMO for 2010 are shown in the table below:

Credit Cover Parameter	2009 value	2010 proposed
Fixed Credit Requirement for Generator Units	€5,000	€5,000
Fixed Credit Requirement for Supplier Units	€30,000	<del>€20,000</del>
Historical Assessment Period for Billing Period	100 days	100 days
Historical Assessment Period for Capacity Period	100 days	<b>90 days</b>
Analysis Percentile Parameter	1.96	1.96
Credit Cover Adjustment Trigger	30%	30%
Warning Limit	75%	75%

## **2. Settlement Recalculation Threshold**

SEMO's report addresses the value that should apply for the Settlement Recalculation Threshold in 2010. 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. The value determined for 2009 was 3%. SEMO recommends maintaining the same value for 2010.

## **3. 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 -  
this is the parameter that sets the cost used by the MSP Software for reducing the generation to the level of demand;
- the 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;
- the 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;
- the Energy Limit MSP Constraint Cost -  
this is the parameter that sets the cost used by the MSP Software for breaching the Energy Limit constraints; and
- the 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 2010 should be the same as in 2009.

## **4. Annual Capacity Exchange Rate**

SEMO's report addresses the values that should apply for the Annual Capacity Exchange Rate in 2010. This exchange rate is based upon the average SEM Bank forecast for 2010 of 0.8586 €/£. The value for 2009 was 0.7944 €/£.

## 5. Parameters used in the calculation of Uninstructed Imbalances

The TSOs' report addresses the values that should apply for the following parameters in 2010:

- 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  $0 \leq \text{ENGTOL} \leq 1$ )
  - the MW Tolerance for each Trading Day  $t$ , MWTOL $t$  (where  $0 \leq \text{MWTOL}t$ );
- the 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%) ;
- the 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
- the 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 2010 are shown in the table below and are identical to those for 2009.

Uninstructed Imbalance Parameters	2009 value	2010 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

## 6. Flattening Power Factor

The TSOs' report addresses the value that should apply for the Flattening Power Factor in 2010. The Flattening Power Factor in the Loss of Load Probability Table calculation has the objective of reducing the volatility in the Capacity Payments mechanism. The TSOs propose the same value (0.35) for the Flattening Power Factor in 2010 as in 2009.