Single Electricity Market Committee

Trading & Settlement Code

Annual Parameters

for 2011

Consultation Paper

SEM-10-065

21st September 2010

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 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 Cover[1] (SEMO);

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

3. Annual Capacity Exchange Rate[3] (SEMO);

4. Parameters used in the calculation of Uninstructed Imbalances[4] (TSOs); and

5. Flattening Power Factor[5] (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 2011. 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.

In previous years, the Settlement Recalculation Threshold (SRT) would also have been consulted upon annually. 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 believe 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 for 2011 from its current value of 3%. SEMO refer to the detailed and comprehensive analysis[6] performed on the SRT last year.

---

[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] 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

The Regulatory Authorities welcome 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:

Dana Kelleher   and   Jean Pierre Miura
Commission for Energy Regulation   Northern Ireland Authority for Utility Regulation
The Exchange   Queen's House
Belgard Square North   14, Queen Street
Tallaght   Belfast
Dublin 24   Northern Ireland
Ireland   BT1 6ER
dkelleher@cer.ie   jeanpierre.miura@niaur.gov.uk

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 19th October 2010. A final decision is then due to be published in early November on the operational parameters to apply for the year 2011.

1. Parameters for the determination of Required Credit Cover

SEMO's report addresses the values that should apply for the following parameters in 2011:

- 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

Note that, in the papers for previous years, the value for the default Warning Limit would be consulted upon (as 75%). 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.

The values of these parameters in 2010 and those proposed by SEMO for 2011 are shown in the table below, with any changes highlighted:

Credit Cover Parameters	2010 value	2011 proposed
Fixed Credit Requirement for Generator Units	€5,000	€5,000
Fixed Credit Requirement for Supplier Units	€20,000	**€10,000**
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 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 2011 should be the same as in 2010 as follows:

MSP Software Penalty Cost Parameters	2010 value	2011 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

3. Annual Capacity Exchange Rate

SEMO's report addresses the values that should apply for the Annual Capacity Exchange Rate in 2011. This exchange rate is based upon the average SEM Bank forecast for 2011 of 0.8210 €/£. The value for the year 2010 was 0.8586 €/£.

4. Parameters used in the calculation of Uninstructed Imbalances

The TSOs' report addresses the values that should apply for the following parameters in 2011:

- 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, MWTOLt (where $0 \leq MWTOLt$);

- 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 outs ide 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 2011 are shown in the table below and are identical to those for 2010.

Uninstructed Imbalance Parameters	2010 value	2011 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

5. Flattening Power Factor

The TSOs' report addresses the value that should apply for the Flattening Power Factor in 2011. 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 2011 as in 2010.