



**Single Electricity Market
(SEM)**

**Trading and Settlement Code Annual
Operational Parameters for 2021**

Decision Paper

**SEM-20-076
11 November 2020**

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1. Introduction

Under the terms of the SEM Trading and Settlement Code (TSC) Part B, the Regulatory Authorities (RAs) shall determine certain parameters proposed by the Market Operator (MO) in relation to the calculation and treatment of participants Required Credit Cover and matters related to Imbalance Settlement.

In May 2020, the RAs requested the Single Electricity Market Operator (SEMO) to review the following parameters utilised in:

1. The calculation of Required Credit Cover;
2. Imbalance Settlement; and
3. Price Materiality Threshold.

On 21st August 2020, the RAs received reports (i.e. SEM-20-065a, SEM-20-006b and SEM-20-065c)¹ from SEMO outlining their recommendations for the proposed 2021 values for the Required Credit Cover, Imbalance Settlement parameters and SEM Price Materiality Threshold. The RAs subsequently published a consultation paper (SEM-20-056) on the 17th September 2020, which consulted on SEMO's recommendations.

Following the closure of the consultation window, the RAs received three responses to the consultation paper (SEM-20-065). Having considered stakeholder comments, this paper presents the RAs' decision in relation to these parameters (i.e. Required Credit Cover, Imbalance Settlement parameters & SEM Price Materiality), and is structured as follows:

- **Section 2:** identifies the Credit Cover parameters that were reviewed by SEMO, summarises stakeholders' comments and details the SEM Committee decision on the 2021 values for the Required Credit Cover parameters;
- **Section 3:** identifies the Imbalance Settlement parameters that were reviewed by SEMO, summarises stakeholders' comments and details the SEM Committee decision on the 2021 values for the Imbalance Settlement parameters;
- **Section 4:** identifies the SEM Price Materiality Threshold parameter that was reviewed by SEMO, summaries stakeholders' comments and details the SEM Committee decision on the 2021 value for the Price Materiality Threshold; and
- **Section 5:** outlines next steps.

¹ SEM-20-065a was SEMO's Recommendation Report on Credit Cover Parameters; SEM-20-065b was SEMO's Recommendation Report on Imbalance Settlement; SEM-20-065C was SEMO's Recommendation Report on SEM Price Materiality Threshold

2. Parameters for the Determination of Required Credit Cover

2.1 Overview

The following Credit Cover parameters and their associated values were reviewed by SEMO for 2021:

- I. Fixed Credit Requirement.
- II. Undefined Exposure Period.
- III. Historical Assessment Period.
- IV. Analysis Percentile Parameter.
- V. Credit Cover Adjustment Trigger.
- VI. Level of Warning Limit.
- VII. Level of Breach Limit.

2.2 Fixed Credit Requirement

This parameter relates to the Fixed Credit Requirement for Generator Units and Supplier Units and is the amount of credit cover required to allow for payments that have become due as a result of Settlement Reruns. Table 2.1 below sets out the current values and SEMO's proposed values for 2021.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
Fixed Credit Requirement for Generator Unit	€5,000	€5,000
Fixed Credit Requirements 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	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

Table 2.1: Proposed Values for Fixed Credit Requirements

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed values, these values shall remain unchanged for 2021.

2.3 Undefined Exposure Period

SEMO's report proposed that the number of days in the Undefined Exposure Period remains as 9 days. The number of days in the Undefined Exposure Period (referred to as UEPBDg in the Trading and Settlement Code) is the period for which settlement amounts are not known, but where participants can incur further liability until they are removed from the market.

Table 2.2 below sets out the current and proposed value for the parameter related to the Undefined Exposure Period.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
Number of days in the Undefined Exposure Period for each Undefined Exposure Period, UEPBDg	9 Days	9 Days

Table 2.2: Proposed Value for Undefined Exposure Period

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021.

2.4 Historical Assessment Period

The Historical Assessment Period (DINHAP) 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.

Table 2.3 below sets out the current and proposed value for the parameter related to Historical Assessment Period.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
Historical Assessment Period for Billing Period DINHAP	100 Days	100 Days

Table 2.3: Proposed Value for Historical Assessment Period

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021.

2.5 Analysis Percentile Parameter

The Analysis Percentile Parameter (AnPP) 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. In application, the AnPP is a multiplier used in the calculation of undefined exposures for all units and the Credit Assessment Price. The Credit Assessment Price is equal to the mean value of imbalance settlement prices over a period, plus the AnPP multiplied by the standard deviation of imbalance prices over the same period.

Table 2.4 below sets out the current and proposed value for the parameter related to Analysis Percentile Parameter.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
Analysis Percentile Parameter	1.96	1.96

Table 2.4: Proposed Value for Analysis Percentile Parameter

Respondents' Comments & SEM Committee Decision

The SEM Committee stated in consultation paper SEM-20-056 that the Analysis Percentile Parameter of 1.96 provides a 97.5%, rather than 95%, level of confidence (assuming a normal distribution) given that only the likelihood of extremely high values and not of extremely low values impact credit requirements. The SEM Committee notes that no respondents commented on this observation. The SEM Committee has therefore decided to retain the current value of 1.96 given that there are no objections to the current value, but may consider changing the AnPP to 1.645 to represent a one tailed confidence level of 95% in the future.

2.6 Credit Cover Adjustment Trigger

The Credit Cover Adjustment Trigger is the percentage change in expected future generation or demand which requires 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 rather than analysis of historical data.

Table 2.5 below sets out the current and proposed value for the parameter related to Credit Cover Adjustment Trigger.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
Credit Cover Adjustment Trigger	30%	30%

Table 2.5: Proposed Value for Credit Cover Adjustment Trigger

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021.

2.7 Level of Warning Limit

The level of the Warning Limit parameter is the limit that will be used for all participants to notify them that they are above an identified ratio in relation to their required credit cover. The Warning Limit is a parameter used to trigger the issuing of a Warning Notice by SEMO to a Participant whose Credit Cover Requirement ratio is approaching its Posted Credit Cover.

Table 2.6 below sets out the current and proposed value for the parameter related to Warning Limit.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
Level of the Warning Limit	80%	80%

Table 2.6: Proposed Value for Level of Warning Limit

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021.

2.8 Level of Breach Limit

The Level of the Breach Limit is a predefined level which if the ratio of a Participant's Required Credit Cover to its Posted Credit Cover exceeds will result in a Credit Cover Increase Notice which will require remedy by the Participant either by trading out of their position or by providing additional credit cover.

Table 2.7 below sets out the current and proposed value for the parameter related to Breach Limit.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
Level of Breach Limit	100%	100%

Table 2.7: Proposed Value for Level of Breach Limit

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021.

2.9 Summary of SEM Committee Decisions

A summary of the decisions made by the SEM Committee in relation to the parameters relating to Credit Cover requirements are summarised in Table 2.8 below.

Parameters	Current SEM Value	SEMO's Proposal for 2021	SEM Committee Decision for 2021
Fixed Credit Cover Requirement for Generator Units	€5,000	€5,000	€5,000
Fixed Credit Cover 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	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	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
Historical Assessment Period	100 Days	100 Days	100 Days
Undefined Exposure Period	9 Days	9 Days	9 Days
Analysis Percentile Parameter	1.96	1.96	1.96
Credit Cover Adjustment Trigger	30%	30%	30%

Warning Limit	80%	80%	80%
Breach Limit	100%	100%	100%

Table 2.8: Summary of Credit Cover Parameter values for 2021

3. Imbalance Settlement Parameters

3.1 Overview

Uninstructed Imbalances apply in the SEM when the Actual Output of a Generator Unit deviates from its Dispatch Quantity in a Trading Period. In its report, SEMO recommended values to be applied for a number of imbalance settlement parameters in the SEM.

- I. Engineering Tolerance, (TOLENG).
- II. MW Tolerance (TOLMEG).
- III. System per Unit Regulation Factor (FUREG).
- IV. The Discount for Over Generation Factor (FDOGuy).
- V. Premium for Under Generation (FPUGuy).

3.2 MW Tolerance, and Engineering Tolerance

MW Tolerance, Engineering Tolerance and System per Unit Regulation Factor parameters are largely based on fundamentals of the power system, such as the average size of the units in the market, the overall size of the market, and the operation of units to meet dispatch instructions. SEMO proposed that the values for MW Tolerance, Engineering Tolerance, and System per Unit Regulation Factor are retained for 2021. Table 3.1 below sets out the current and proposed values for the MW Tolerance and Engineering Tolerance.

Parameter	Current SEM Value	SEMO's Proposed Value for 2021
MW Tolerance	1 MW	1 MW
Engineering Tolerance	0.01 (1%)	0.01 (1%)
System per Unit Regulation Factor	0.04 (4%)	0.04 (4%)

Table 3.1: Proposed values related to Imbalance Tolerance requirements

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021

3.3 Discount for Over Generation Factor and Premium for Under Generation Factor

Discount for Over Generation and Premium for Under Generation can, in principle, be based on the typical cost of replacement generation (in the case of under-generation) and the typical cost saving of displaced generation (in the event of over-generation). Table 3.2 below sets out the current and proposed values for Over and Under Generation.

Parameters	Current Value	SEM SEMO's Proposed Value for 2021
Discount for Over Generation Factor for each Generator Unit	0.2	0.2
Discount for Over Generation for each Interconnector Error Unit	0	0
Premium for Under Generation Factor for each Generation Unit	0.2	0.2
Premium for Under Generation Factor for each Interconnector Error Unit	0	0

Table 3.2: Proposed values related to Over and Under Generation

Respondents' Comments & SEM Committee Decision

The SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021.

3.4 Summary of SEM Committee Decisions

A summary of the decisions made by the SEM Committee in relation to the parameters relating to Imbalance Settlement are summarised in Table 3.3 below.

Parameters	Current SEM Value	SEMO's Proposal for 2021	SEM Committee Decision for 2021
MW Tolerance	1 MW	1 MW	1 MW
Engineering Tolerance	0.01 (1%)	0.01 (1%)	0.01 (1%)
System per Unit Regulation Factor	0.04 (4%)	0.04 (4%)	0.04 (4%)
Discount for Over Generation Factor for each Generator Unit	0.2	0.2	0.2
Discount for Over Generation for each Interconnector Error Unit	0	0	0
Premium for Under Generation Factor for each Generator Unit	0.2	0.2	0.2
Premium for Under Generation Factor for each Interconnector Error Unit	0	0	0

Table 3.3: Summary of Imbalance Settlement Parameters values for 2021

4. SEM Price Materiality Threshold

4.1 Overview

The Price Materiality Threshold refers to the threshold which is approved from time to time by the RAs under paragraph B19.3.1(b) of the Trading and Settlement Code, which is applied in the event of a Pricing Dispute or where a manifest error is identified by the Market Operator for the purpose of Repricing. The Price Materiality Threshold tests when a change to input data as a result of an upheld dispute causes a change in the price greater than a certain threshold. If the threshold is exceeded, the price is recalculated and included in a Settlement re-run. Table 4.1 below sets out the current and proposed value for the SEM Price Materiality Threshold.

Parameters	Current SEM Value	SEMO's Proposed Value for 2021
SEM Price Materiality Threshold	5%	5%

Table 4.1: Proposed value for SEM Price Materiality Threshold

Respondents' Comments & SEM Committee Decision

No respondent objected to the proposed value for the SEM Price Materiality Threshold. One respondent, while supportive of the proposed parameter value expressed concerns regarding the "continued operation of the market given continuing delays and the potential lack of delivery of the Price Materiality Threshold by January 2021".

The SEM Committee notes the respondent's concerns and considered the delays to repricing and implementation of the functionality associated with the Price Materiality Threshold as part of its Decision in SEM-19-068. At the time this Decision was made, and a subsequent derogation was granted to SEMO from its obligations to reprice for a specific time period, it was not anticipated that the functionality associated with this parameter would be further delayed. However, the SEM Committee notes that SEMO has put in place a Repricing Participant Guide and Repricing Calendar which is regularly updated.

In respect of the SEM Price Materiality Threshold, the SEM Committee is of the view that given that there are no objections to the proposed value, this value shall remain unchanged for 2021.

4.2 Summary of SEM Committee Decision

Parameters	Current SEM Value	SEMO's Proposal for 2021	SEM Committee Decision for 2021
SEM Price Materiality Threshold	5%	5%	5%

Table 4.2: Summary of SEM Price Materiality Threshold parameter value for 2021

5. Next Steps

These parameters will apply from 1st January until 31 December 2021. A consultation will be carried out in August 2021 to determine the values to apply from January 2022. The Trading and Settlement Code provides for the RAs amending the values of parameters where necessary outside the normal parameter-setting process. While this would only arise in exceptional circumstances, the RAs have an obligation to balance regulatory certainty with ensuring that no unnecessary consumer harm arises. On this basis, the RAs will keep all parameters under observation and may propose changes in the interim if necessary, via consultation.