



INSTRUCTION B10/2014

**Calculation of Margins and
Settlement Values**

27.July.2021

Versions Index

30.Jun.2006

Initial Version

18.Nov.2008

Registered with the Portuguese Securities Market Commission (CMVM) on 30 October 2008, as the Rule on the Settlement System, Clearing House and Central Counterparty of the Regulated MIBEL Derivatives Market, pursuant to Directive 2004/39/CE of the European Parliament and of the Council, of 21 April 2004 (MiFID).

2. Mar.2009

Amendment of the Instruction name. Introduction of the concepts of Settlement Margin and Delivery Settlement Value for Forward Contracts and Swaps Contracts and related calculation and settlement. Introduction of the concept of Billing Value. Modification following the migration to TARGET2 system, in which the settlement is processed through a Simultaneous Multilateral Settlement.

20.Jan.2010

Inclusion of the MIBEL Peak Load Futures Contracts.

10.Feb.2014

Modification of the methodology used to calculate the Initial Margin, which is now based on the concept of portfolio margin. In the Variation Margin calculation of netting per delivery bucket is replaced by netting per contract. Inclusion of the methodology to calculate Premium Margin and Premium for Option contracts. Negative amounts of the non-realised gains and losses are considered as a Margin.

13.May.2016

Modification of the Service provided by OMIClear from "MIBEL Derivatives Market" to "Service on Power Derivatives Contracts". Modifications in the Extraordinary Margin. Implementation of an Extraordinary Margin for Clearing Members' concentrated positions. Adjustment in the extra margin for large positions of the Initial Margin calculation in order to include the possibility of defining more than one limit of large position and aggravation factors. Introduction of the Settlement Margin formula for Futures contracts.

24.Nov.2017

Instruction update following the inclusion of the Service on Natural Gas Derivatives Contracts registered in OMIClear through OMIP Derivatives Market. Inclusion of formulas regarding the Delivery Settlement Value and Physical Delivery Margin for PVB-ES NG Physical Futures Contracts in delivery.

17.Apr.2018

Update of the Instruction following the extension of the Service on Natural Gas Derivatives Contracts to MIBGAS Derivatives Market.

02.Oct.2019

Modification of paragraph 66 to include the possibility of assigning credits, in the initial margin calculation, corresponding to 100% of the difference between the sum of margins, calculated individually for each Contract belonging to a pair containing opposite Positions, and the margin resulting from the combined exposure of the Positions included in such pair of Contracts. This only applies to Contracts with the same underlying.

17.Aug.2020

Specification of the procedures for calculating the Initial Margin for contracts on the last trading day and the penultimate delivery day.

27.Jul.2021

Rectification of the footer related to paragraph 36 (about the assessment of the contract individual risk within the scope of the initial margin calculation) to clarify that the condition "*In the case of long Positions, if the Clearing Price of the contract is less than R, then the contract's Clearing Price is considered.*" only applies to Natural Gas Derivatives Contracts.

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Pursuant to its Rulebook, OMIClear approves this Instruction, which defines the methodology for calculating margins and settlement of gains and losses for the Service on Power Derivatives Contracts and the Service on Natural Gas Derivatives Contracts.

A. GENERAL PROVISIONS

1. For each Clearing Day and Clearing Member, OMIClear calculates the following types of settlements and margins:
 - a) Settlements:
 - i. Daily Mark-to-Market (MtM);
 - ii. Delivery Settlement Value (DSV);
 - iii. Premium (P);
 - b) Margins:
 - i. Initial Margin (IM);
 - ii. Variation Margin (VM);
 - iii. Premium Margin (PM);
 - iv. Settlement Margin (SM);
 - v. Non-realised Gains and Losses Margin (NRGLM);
 - vi. Billing Margin (BM);
 - vii. Physical Delivery Margin (PDM).
2. The table below shows for the Power Derivatives Contracts and the Natural Gas Derivatives Contracts a relationship between the Contract type (Future, Swap, Forward and Option) and the corresponding margins and settlements calculation carried out by OMIClear, in the Registration Period and/or Delivery Period of the Contract concerned:

	Power Derivatives Contracts				Natural Gas Derivatives Contracts
	Futures	Options	Swaps	Forwards	Futures
Settlement:					
Daily Mark-to-Market (MtM)	Yes (RP)	No	No	No	Yes (RP)
Delivery Settlement Value (DSV)	Yes, by the difference between SRP on LRD and SpotRP (DP)	No	Yes, by the difference between original Transaction price and SpotRP (DP)	Yes, by the difference between original Transaction price and SpotRP (DP)	Yes, by the SRP on LRD (DP)
Premium (P)	No	Yes (RP)	No	No	No
Margins:					
Initial Margin (IM)	Yes (RP & DP)	Yes (RP)	Yes (RP & DP)	Yes (RP & DP)	Yes (RP & DP)
Variation Margin (VM)	Yes (DP)	No	Yes (RP & DP)	Yes (RP & DP)	Yes (DP)
Premium Margin (PM)	No	Yes (RP)	No	No	No
Settlement Margin (SM)	Yes (RP & DP)	Yes (RP)	Yes (DP)	Yes (DP)	Yes (RP & DP)
Non-Realised Profits & Losses Margin (NRPLM)	Yes (RP)	No	No	No	Yes (RP)
Billing Margin (BM)	Yes (RP & DP)	Yes (RP)	Yes (RP & DP)	Yes (RP & DP)	Yes (RP & DP)
Physical Delivery Margin (PDM)	n/a	n/a	n/a	n/a	Yes (DP)

RP – Registration Period of the Contract.
 DP – Delivery Period of the Contract.
 SRP – Settlement Reference Price.
 SpotRP – Spot Reference Price.
 LRD – Last Registration Day.

3. The margins referred in paragraph (1)(b) are:

- a) Calculated on a Clearing Account level, and Positions associated to different Clearing Accounts will not be netted even if they belong to the same holder;
- b) Calculated based on Clearing Reference Prices which methodology is defined in Instruction B11/2014 – Reference Prices;
- c) Responsibilities of the Clearing Member concerned, which have to be covered with Guarantees according to the rules defined in the specific Instruction.

4. The settlements referred in paragraph (1)(a) are calculated:

- a) Calculated on a Registration Account level, and Positions associated to different Registration Accounts will not be netted even if they belong to the same holder;
- b) Calculated based on Settlement Reference Prices, under the terms laid down in Instruction B11/2014 – Reference Prices;

5. Regarding Power Derivatives Contracts listed in Instruction B14/2014 – Eligible Contracts, the settlement process in the Delivery Period can be done in one of two ways, as defined in the General Contractual Terms of each Contract and in Instruction B13/2014 - Settlement in the Delivery Period:

- a) Settlement by financial delivery, consisting exclusively in the settlement of the DSV as defined in paragraphs (12) and (13);

- b) Settlement by physical delivery, consisting in the settlement of the DSV and also the notification of the Positions by OMIClear to OMIE.
6. Regarding Natural Gas Derivatives Contracts listed in Instruction B14/2014 – Eligible Contracts, the settlement process in the Delivery Period assumes one specific way, as defined in the General Contractual Terms of each Contract and in Instruction B13/2014 - Settlement in the Delivery Period, in particular a settlement by physical delivery which includes the DSV cash settlement, as defined in paragraph 16 of this Instruction and the notification of the physical net positions to Enagás GTS by OMIClear.

B. METHOD FOR CALCULATING THE SETTLEMENT OF GAINS AND LOSSES

Daily Mark-to-Market (MtM) of Futures Contracts

7. The MtM is calculated in terms of each Registration Account, for each Power or Natural Gas Futures Contract listed in Instruction B14/2014 - Eligible Contracts, in its Registration Period, based on two components:
- a) Component (A): relating to the open Positions that have already been subject to the calculation of the MtM, namely when they are carried over from the previous Clearing Session, based on the following formula:

$$MtM_A = H \times PQ_i \times (SP_t - SP_{t-1})$$

$$MtM_A = H \times NP_i \times (SRP_t - SRP_{t-1})$$

$$MtM_A = H \times QP_i \times (PRL_t - PRL_{t-1}) \quad MtM_A = H \times QP_i \times (PRL_t - PRL_{t-1})$$

Where,

t = day when the MtM calculation takes place

H = number of hours underlying the Futures Contract;

NP_i = Net buying/selling Position in the Futures Contract carried over from the previous Clearing Session ($t-1$), assuming a positive value if related to a buying Position, or a negative value in the case of a selling Position;

SRP_t = Settlement Reference Price of the Contract in Clearing Session t ;

SRP_{t-1} = Settlement Reference Price of the Contract in Clearing Session $t-1$.

- b) Component (B): relating to the registered Transactions which have the same clearing reference date of the day when the MtM [t] calculation is performed, based on the following formula:

$$MtM_B = H \times \sum_{i=1}^n [TQ_i \times (SP_t - TP_i)]$$

Where,

t = day when the MtM calculation takes place;

H = number of hours underlying the Futures Contract;

i = Transaction registered with clearing reference date of the day on which the MtM is calculated;

n = total number of Transactions which have their clearing reference dates of the same day as the MtM calculation;

QT_i = quantity (number of contracts) of each Transaction i , assuming a positive value if relating to a buying transaction, or negative in the case of a selling transaction;

SRP_t = Settlement Reference Price of the Contract in Clearing Session t ;

PT_i = price of Transaction i .

8. The total MtM amount for a certain Futures Contract corresponds to the sum of the two components referred to in the preceding paragraph (A) + (B), that is:

$$MtM = H \times PQ_i \times (SP_t - SP_{t-1}) + H \times \sum_{i=1}^n [TQ_i \times (SP_t - TP_i)]$$

9. The total MtM amount corresponds to the sum of the MtM amounts calculated for the various Futures Contracts in their Registration Period.
10. The Contracts of Option, Forward and Swap type are not subject to MtM.

Delivery Settlement Value (DSV) regarding Power Derivatives Contracts

11. Regarding the Power Derivatives Contracts listed in Instruction B14/2014 - Eligible Contracts, the DSV is calculated on a Power Registration Account level, based on the Positions held in the Futures, Forward or Swap Contracts concerned which are in the Delivery Period.
12. The calculation formula for the DSV for Power Futures Contracts is as follows:

$$DSV_d = H \times \sum_{i=1}^n [NP_i \times (SpotRP - SRP_i)]$$

Where,

DSV_d = Delivery Settlement Value on the delivery day d ;

H = number of hours in the delivery day d ;

i = Futures Contract with delivery on day d ;

n = total number of Futures Contracts with delivery on day d ;

$SpotRP$ = Spot Reference Price for delivery day d ;

SRP_i = Settlement Reference Price on the Futures Contracts i (with delivery on day d) on the Last Registration Day;

NP_i = final Net Position on the Futures Contract i (with delivery on day d):

NP_i assumes as positive value (+) in the case of a long Position;

NP_i assumes a negative value (-) in the case of a short Position.

13. The calculation formula of the DSV for Power Swap Contracts and Power Forward Contracts is as follows:

$$DSV_d = H \times \sum_{i=1}^n [QT_i \times (SpotRP - PT_i)]$$

Where,

DSV_d = Delivery Settlement Value on the delivery day d ;

H = number of hours underlying the delivery day d ;

i = Transaction in the Swap or Forward Contract with delivery on day d ;

n = total number of Transactions in Swap or Forward Contract with delivery on day d ;

$SpotRP$ = Spot Reference Price for delivery day d ;

PT_i = Price of Transaction i in the Swaps Contract or Forward Contract with delivery on day d ;

QT_i = quantity (number of contracts) underlying Transaction i in the Swap or Forward Contract with delivery on day d ;

QT_i assumes as positive value (+) in the case of a buy Transaction;

QT_i assumes a negative value (-) in the case of a sell Transaction.

14. The methodology to determine the Spot Reference Price used in the DSV calculation of Power Derivatives Contracts is defined in Instruction B11/2014 – Reference Prices as well as in the respective General Contractual Terms. Regarding the disclosure procedures of these prices, it is included in Instruction A10/2014 - Dissemination of Spot Reference Price of Power Derivatives Contracts.

Delivery Settlement Value (DSV) regarding Natural Gas Derivatives Contracts

15. Regarding the Natural Gas Derivatives Contracts listed in Instruction B14/2014 - Eligible Contracts, the DSV is calculated on a Natural Gas Registration Account level, based on the Positions held in the Contracts concerned which are fulfilling the Delivery Period.
16. The calculation formula for the DSV for Natural Gas Futures Contracts is as follows:

$$DSV_d = \sum_{i=1}^n (-NP_i \times SRP_i)$$

Where,

DSV_d = Delivery Settlement Value on the delivery day d ;

i = Futures Contract with delivery on day d ;

n = total number of Futures Contracts with delivery on day d ;

SRP_i = Settlement Reference Price on the Futures Contracts i (with delivery on day d) on the Last Registration Day;

NP_i = final Net Position on the Futures Contract i (with delivery on day d):

FQ_i assumes as positive value (+) in the case of a long Position;

FQ_i assumes a negative value (-) in the case of a short Position.

17. In a scenario on which a Physical Settlement Agent loose the role as Network User ('Sujeto Habilitado') in Enagás GTS the SRP_i referred to in the preceding paragraph will consist of the value determined by Enagás GTS, in particular the amount of the applicable Unbalanced Tariff ('Tarifa de Desbalance'), according to the sectorial regulation in place in Spain.

¹ In these Contracts the delivery day d is the Gas Day d , as defined in the corresponding General Contractual Terms.

18. Under the terms of the preceding paragraph, the difference between the Settlement Reference Price of Futures Contract i on its Last Registration Day and the Unbalanced Tariff will be included in the Daily Financial Settlement of the same session, under the item 'Other Debits or Credits' (ODC), according to Instruction B08/2014 – Financial Settlement.

VAT applicable to Delivery Settlement Value

19. OMIClear publishes in its website the VAT regime applicable to the Delivery Settlement Value (DSV) relative to Contracts which have a settlement by physical delivery according to the regulation in place.

Premium

20. The Premium is calculated in terms of each Registration Account, based on the Options traded in each Clearing Day.
21. Below is the formula for calculating the Premium, for each Option "t" traded on a specific Clearing Day:

$$P_t = H \times \sum_{i=1}^n [QT_i \times (PO_i) \times (-S)]$$

Where,

P_t = premium underlying the Option t ;

H = number of hours included in the contract underlying Option t ;

QT_i = quantity (number of contracts) traded in the Transaction i ;

PO_i = Premium underlying Option t in the Transaction i ;

S = Sign of the Transaction which assumes the value of 1 if a buying Transaction, and -1 if a selling Transaction;

i = Transaction in Option t with a given Clearing Day (D) as the clearing reference date;

n = total number of Transactions in Option t with the Clearing Day (D) as the clearing reference date.

22. The total amount of Premium calculated for a given Clearing Day (D) corresponds to the sum of all P_t calculated for all the Options traded whose clearing reference date is Clearing Day (D).
23. In accordance with the previous paragraph, the total Premium value is included in the Daily Financial Settlement of the same Clearing Day on which the calculation is made.

C. METHOD FOR CALCULATING MARGINS

Initial Margin for Futures Contracts, Options, Forwards and Swaps

24. The calculation of the Initial Margin is based on a portfolio model which includes the following core steps:
- a) Breakdown of Positions under Delivery;
 - b) Calculation of Arbitrage Positions;
 - c) Risk Scenarios Assessment:
 - i. Risk associated to Positions in individual Contracts;
 - ii. Risk associated to Positions in combined commodities;
 - d) Calculation of net Position per combined commodity;
 - e) Margin for large Positions in combined commodities;
 - f) Credit for opposite Positions in combined commodities;
 - g) Short Option Minimum;
 - h) Total Initial Margin required.
25. The reference values used to calculate the Initial Margin not specified in this Instruction are published on the OMIClear website.

Breakdown of Positions under Delivery

26. For the purpose of calculating the Initial Margin, the Positions in Month, Balance of the Month (BoM), Week, WeekDays and Weekend Contracts fulfilling delivery² are broken down into Contracts with a shorter maturity, of the same nature, being in their Registration Period, and which delivery periods are entirely included in the delivery periods of the formers, as detailed in the following subparagraphs:
- a) In the case of Weekend Contracts under delivery - the Positions are broken down in the Day Contracts admitted for registration regarding the days of that weekend.
 - b) In the case of WeekDays Contracts under delivery - the Positions are broken down in the Day Contracts admitted for registration regarding the remaining days of that week (from Monday to Friday).
 - c) In the case of Week Contracts under delivery - the Positions are broken down in the Day Contracts admitted for registration regarding the remaining days of that week (from Monday to Sunday).
 - d) In the case of Month or BoM Contracts under delivery, the Positions are broken down into the following Contracts:
 - i. Day Contracts admitted for registration corresponding to the remaining days of the Week or Weekdays (as the case may be) in delivery;
 - ii. Depending on the case, Week Contracts (from Monday to Sunday), or WeekDays Contracts (from Monday to Friday) plus Weekend Contracts (Saturday and Sunday) admitted for registration, with Delivery Periods entirely included in the Delivery Period of the Month or BoM Contract;

² For this purpose, the Positions in the reference Contract on its Last Registration Day are considering as being already under delivery and subject to the breakdown procedure.

- iii. Into a rest of the month fragment that contains the remaining days of the month, which includes the days of the month in delivery that do not overlap with the Delivery Period of any Contract in Registration Period.
27. In the case of Forward Contracts, the Day Contracts used in the breakdown referred to in the previous paragraph are simply instrumental for the purpose of this procedure, and cannot be registered in OMIClear.
28. This way, for the purpose of calculating the Initial Margin, the Positions in the Day, WeekDays and Week Contracts admitted for registration are those that result of the original Positions in said Contracts plus the Positions resulting from the above mentioned breakdown of WeekDays, Week, BoM and Month Contracts under delivery.

Calculating Arbitrage Positions

29. In a second step, OMIClear identifies, within each instrument³, which Contracts in the Registration Period are likely to form a perfect arbitrage relation due to overlapping maturities, including:
- a) Year Contracts and Quarter Contracts;
 - b) Season-Gas and Quarter Contracts;
 - c) Quarter Contracts and Month Contracts.
30. For such cases, OMIClear verifies if there are arbitrage Positions, i.e., if opposite Positions in those Contracts can be netted. For example, an arbitrage Position arises if there is a long Position in a Year Contract and a short Position in each of the underlying Quarter Contracts.
31. The arbitrage Positions are the result of the formula below:

$$A_{Y,Q} = \text{Minimum}\{|PQ_Y|; |PQ_{Q1}|; |PQ_{Q2}|; |PQ_{Q3}|; |PQ_{Q4}|\}$$

or

$$A_{S,Q} = \text{Minimum}\{|PQ_S|; |PQ_{Q1}|; |PQ_{Q2}|\}$$

or

$$A_{Q,M} = \text{Minimum}\{|PQ_Q|; |PQ_{M1}|; |PQ_{M2}|; |PQ_{M3}|\}$$

Where,

- $A_{Y,Q}$ = arbitrage Position between Year Contracts and Quarter Contracts;
- $A_{S,Q}$ = arbitrage Position between Season-Gas Contracts and Quarter Contracts;
- $A_{Q,M}$ = arbitrage Position between Quarter Contracts and Month Contracts;
- PQ_Y = net Position in Year Contract;
- PQ_S = net Position in Season-Gas Contract;
- PQ_{Qi} = net Position in Quarter Contract;
- PQ_M = net Position in Month Contract.

³ Instrument in this instruction means the set of Contracts of the same type (Futures, Forward or Swap), Underlying Asset and load profile. For e.g., the MIBEL SPEL Base Futures Contracts consist of an Instrument.

32. Arbitrage Positions calculated according to the previous paragraph are deducted from the original Positions in the Contracts as follows:
- If the original Position is a long Position (>0), the value of AY,Q or AQ,M mentioned in the previous paragraph is deducted from that Position;
 - If the original Position is a short Position (<0), the value of AY,Q or AQ,M mentioned in the previous paragraph is added to that Position;
- and the resulting Positions (“Adjusted Net Position”) will be used for calculating the Initial Margin.

Risk Scenarios Assessment

33. In a third step, OMIClear establishes 16 scenarios of price and volatility for each Contract ⁴, and calculates the respective gains and losses in each scenario of the respective Positions, having completed the breakdown process in delivery and obtaining the arbitrage Positions.

34. The scenarios (S) mentioned above result from a plausible range of price changes (R), as well as the increase, reduction and maintenance of volatility (V) per Contract (i) as follows:

- S1. Contract price unchanged, volatility up in V.
- S2. Contract price unchanged, volatility down in V.
- S3. Contract price down R/3, volatility up in V.
- S4. Contract price down R/3, volatility down in V.
- S5. Contract price down 2R/3, volatility up in V.
- S6. Contract price down 2R/3, volatility down in V.
- S7. Contract price down R, volatility up in V.
- S8. Contract price down R, volatility down in V.
- S9. Contract price up R/3, volatility up in V.
- S10. Contract price up R/3, volatility down in V.
- S11. Contract price up 2R/3, volatility up in V.
- S12. Contract price up 2R/3, volatility down in V.
- S13. Contract price up R, volatility up in V.
- S14. Contract price up R, volatility down in V.
- S15. Contract price down 3R, volatility unchanged.
- S16. Contract price up 3R, volatility unchanged.

35. The values of R and V for each Contract *i* referred to in the previous paragraph are published on the OMIClear website.

Calculation of the Individual Contract Risk

36. In the case of Futures, Forwards and Swaps, the gains and losses for each scenario (S) are calculated according to the following formula:

$$GL_S = H \times PQ \times M_S \times R \times S_S$$

Where:

- GL_S = Contract gains and losses in scenario S;
- H = number of hours underlying the Contract;
- PQ = Net position in Contract;

⁴ In the case of Options, the price and volatility observe the underlying asset.

M_C = multiplier of R in scenario S , which can take the values of 0, -1, 1, 1/3, -1/3, 2/3, -2/3, 3 and -3;
 R = Contract price variation⁵ (risk parameter);
 S_S = weight of scenario S , which can take the value of 1 or 1/3.

37. In the case of Options, the theoretical value obtained in each scenario is calculated based on the use of the Black-76 model, the formulas of which are shown below:

$$\begin{aligned}
 \text{Value Call}_S &= e^{-iT} [F_S N(d_1) - K N(d_2)] \\
 \text{Value Put}_S &= e^{-iT} [K N(-d_2) - F_S N(d_1)]
 \end{aligned}$$

Parameters d_1 and d_2 are calculated as follows,

$$d_1 = \frac{\ln\left(\frac{F_S}{K}\right) + \left(\frac{\sigma_c^2}{2}\right)T}{\sigma_c\sqrt{T}} \qquad d_2 = \frac{\ln\left(\frac{F_S}{K}\right) - \left(\frac{\sigma_c^2}{2}\right)T}{\sigma_c\sqrt{T}}$$

Where,

F_S = price of the underlying Futures Contract in scenario S ;
 $N(.)$ = cumulative normal distribution;
 K = exercise price of the Option Contract;
 i = risk-free interest rate;
 T = time to maturity (in years);
 σ_c = volatility of underlying Futures Contract in scenario S .

Calculation of Combined Commodity Risk

38. Contracts sharing the same Underlying Asset, the same load profile and delivery period form a combined commodity. For example, the following form a combined commodity:

- a) a SPEL Base Futures Contract with delivery in a given month M with,
- b) a SPEL Base Forward Contract with delivery in the same month M with,
- c) a SPEL Base Swap Contract with delivery in the same month M with,
- d) a Option Contract on a SPEL Base Futures Contract with delivery in the same month M .

39. OMIClear calculates the risk of the combined commodity for each of the sixteen scenarios referred before, which is the result of the sum of individual risks in each scenario of the Contracts included in the combined commodity.

40. For each Combined Commodity (CC) an Active Scenario is chosen that corresponds to the with the greatest loss, that is:

$$\text{Active Scenario}_{CC} = \underset{j \in \{1, \dots, 16\}}{\text{Min.}} GL_{CC}(j)$$

Where,

$\text{Active Scenario}_{CC}$ = Active Scenario for the Combined Commodity CC ;
 $GL_{CC}(j)$ = gains and losses of Combined Commodity CC in scenario j .

⁵ For the calculation of the Initial Margin at the end of a Clearing Session (reflected in the respective "end-of-day" report of the Clearing Platform) the R applied to the Day Contracts, relative to the following day, is zero. In the case of long Positions on Natural Gas Derivatives Contracts, if the Clearing Price of the contract is less than R , then the contract's Clearing Price is considered.

41. If there are no losses in either scenario for the Combined Commodity, the Active Scenario equals zero.
42. The values obtained in Active Scenarios correspond to the margins required by OMIClear, before the calculation of margins for large Positions and inter-commodity credits.

Calculation of the Net Position per Combined Commodity

43. After determining the Active Scenario, OMIClear calculates the net Position per Combined Commodity, which is the sum of the net Position in each Contract included in that Combined Commodity, multiplied by the respective delta factor.
44. The delta factor measures the sensitivity of the Contract price to the price variation of the underlying Contract, where:
 - a) In the case of Options, it is determined based on the first partial derivative of the Option value formula (Black-76 model), regarding the underlying Contract price;
 - b) In the case of Futures, Forwards and Swaps, the delta factor equals the unit (1) multiplied by the respective tick volume, which is defined in the General Contractual Terms of the respective Contract;
 - c) The delta factors of all Contracts are published on OMIClear's website.
45. The net Position in the Combined Commodity will then be:

$$NP_{CC} = \sum_{i=1}^{N_c} NP_i \Delta_i$$

Where,

NP_{CC} = Net Position in Combined Commodity CC ;
 NP_i = net Position on Contract i included in the Combined Commodity CC ;
 Δ_i = delta factor of Contract i included in the Combined Commodity CC ;
 N_c = number of Contracts included in the Combined Commodity CC .

Margin for Large Positions in Combined Commodities

46. OMIClear considers that a Position is large whenever the net Position of the Combined Commodity exceeds the limits set by OMIClear.
47. OMIClear requires an extra margin for each large net Position, which is the result of the following formula:

If,

$$NP_{CC} > Limit\ i_{CC}$$

$$PQ_{CC} > Limit\ i_{CC}$$

Then,

$$Extra\ margin_{CC} = LP\ i_{CC} \times Active\ Scenario_{CC}$$

Where,

NP_{CC} = Net Position in Combined Commodity CC ;
 $Limit\ i_{CC}$ = limit i set by OMIClear for the Combined Commodity CC ;
 $Extra\ margin_{CC}$ = extra margin required by the large Net Position;
 $LP\ i_{CC}$ = aggravation factor i of the value of Active Scenario of Combined Commodity CC .

48. The *LP* factors and the Limits, for each Combined Commodity, are published on OMIClear's website.

Credit for Opposite Positions in Combined Commodities

49. When there are opposite Positions in different combined commodities, OMIClear may apply a credit based on the correlation of its prices.
50. For the purpose of calculating the credit referred to in the previous paragraph, the concept of a Spreadable Risk (SR_{CC}) is defined in terms of the Combined Commodity, corresponding to the net Position in the Combined Commodity multiplied by the *R* factor, as defined below.

$$\text{Spreadable Risk}_{CC} = NP_{CC} \times R_{CC}$$

Where,

$Spreadable Risk_{CC}$ = Spreadable Risk in the Combined Commodity CC ;

NP_{CC} = Net Position in the Combined Commodity CC ;

R_{CC} = price variation of Combined Commodity CC , which corresponds to the price variation of the reference Contract ⁶ in the Combined Commodity.

51. For a portfolio of N combined commodities, there will be $N(N-1)/2$ pairs of combined commodities.
52. OMIClear defines a credit matrix for the various pairs of Combined Commodities based on their correlations.
53. The credit values referred to in the previous paragraph are published on OMIClear's website.
54. The calculation of credits starts with the pair presenting the highest correlation and finishes with the pair with the lowest correlation, and there will only be a credit for a pair of Combined Commodities if the respective Positions have opposite signs.
55. If a pair of Combined Commodities has two Spreadable Risk values with opposite signs, the applicable credit to the opposite Positions (Inter-Commodity Credit) will be calculated as follows:

$$ICC(CC_a, CC_b) = credit(CC_a, CC_b) \times \text{Minimum} \{ |Spreadable Risk_{CC_a}| ; |Spreadable Risk_{CC_b}| \}$$

Where,

$ICC(CC_a, CC_b)$ = Inter-Commodity Credit assigned to the pair of Combined Commodities CC_a and CC_b ;

$credit(CC_a, CC_b)$ = credit value included in the above mentioned credit matrix for the pair CC_a, CC_b ;

$Spreadable Risk_{CC_a}$ = Spreadable Risk of the Combined Commodity CC_a ;

$Spreadable Risk_{CC_b}$ = Spreadable Risk of the Combined Commodity CC_b .

56. The resulting amount of the formula in the previous paragraph will be credited to both Combined Commodities, thus reducing the value of the Active Scenario of each of the commodities.
57. In order to continue with the inter-commodity credits procedure, OMIClear recalculates in each iteration the Spreadable Risks of each Combined Commodity, taking into account the Spreadable Risk "consumed" with the credit assigned to them in the previous iteration.
58. So, in the next iteration, the Spreadable Risk of Combined Commodities to be considered when calculating a new inter-commodity credit will be equal to:

⁶ For the purpose of determining the reference Contract, OMIClear considers, among others, the liquidity of Contracts contained in the Combined Commodity, the extension of its maturities curve and its priority when defining the Settlement Reference Price (Instruction B11/2014 – Reference Prices). The reference Contracts for each Combined Commodity are published in OMIClear's website. This is an operational issue only with the purpose of simplifying the nomenclature when OMIClear aggregates several Contracts in one Combined Commodity.

- a) Zero, regarding the Combined Commodity which before presented the lowest value of spreadable risk;
 - b) The sum of initial Spreadable Risks of the two Combined Commodities, taking into account that they are partially netted due to their opposite signs.
59. OMIClear promotes the iterative calculation of inter-commodity credits, assuming, in each of the steps, the new Spreadable Risks values.

Short Option Minimum

60. OMIClear requires a minimum margin amount for short Options in contracts (SOM) included in the Combined Commodity.
61. The SOM is calculated based on a Short Option Adjustment (SOA) provided by OMIClear on its website.
62. The SOM calculation formula is as follows:

$$SOM_A = -R_A \times V_A - V_O \times (SOA_O - CRP_O)$$

Where,

SOM_A = minimum value required for short Positions in the Option contract included in the Combined Commodity A;

V_A = volume (in absolute value) of the Positions in the Contracts included in the Combined Commodity A, excluding Options;

R_A = price variation of the reference Contract included in the Combined Commodity A;

V_O = volume (in absolute value) of the short Position in Option O;

CRP_O = Clearing Reference Price of Option O;

SOA_O = Short Option Adjustment of Option O.

63. If the same Combined Commodity has more than a short Option, a SOM will be calculated for each separately, and the SOM for the respective Combined Commodity will be the minimum SOM calculated.

Total Initial Margin Required

64. The total Initial Margin required by OMIClear for a given Combined Commodity will be:

$$IM_{CC} = \text{Minimum} (\text{Active Scenario}_{CC} + ICC_{CC}; SOM_{CC}) + \text{Extra Margin}_{CC}$$

Where,

Active Scenario_{CC} = Active Scenario for the Combined Commodity CC;

ICC_{CC} = Inter-Commodity Credits for opposite Positions in the Combined Commodity CC;

SOM_{CC} = minimum value for short Positions in Options included in the Combined Commodity CC;

Extra margin_{CC} = extra margin required by the large net Position in the Combined Commodity CC.

65. The final Initial Margin amount required by OMIClear for a given Clearing Account is the sum of the Initial Margin requirements for each Combined Commodity.

66. In the Initial Margin calculation the margin reduction amount through the implementation of credits is subject to the following conditions:
- a) When a Clearing Account includes pair of Contracts with different underlying, classified as different products, OMIClear assures that such margin reduction amount is not higher than 80% of the difference between the sum of margins for each of these products, individually calculated, and the margin resulting from the estimative of the combined exposure for the two Contracts concerned;
 - b) When a Clearing Account includes pair of Contracts with the same underlying, therefore considered as being the same product, OMIClear applies a margin reduction amount of 100% of the difference between the sum of margins for each of these Contracts, individually calculated, and the margin resulting from the estimative of the combined exposure for the two Contracts concerned.

Variation Margin (VM) for Futures Contract

67. The process for calculating the VM of Futures Contract applies only to the Positions under delivery.
68. For the purpose of calculating the Variation Margin, the Contracts in delivery are broken down into new Contracts with shorter maturity periods, with a delivery period entirely included in the Delivery Period of the former ones.
69. In the case of Week Contracts in delivery, their Positions are broken down into Day Contracts admitted for registration relating to the remaining days of that week (Monday to Sunday).
70. In the case of WeekDays Contracts in delivery, their Positions are broken down into Day Contracts admitted for registration relating to the remaining days of that week (Monday to Friday).
71. In the case of Month and BoM Contracts in delivery, their Positions are broken down into the following Contracts:
- a) In Day Contracts admitted for registration corresponding to the remaining days of the week under delivery;
 - b) Depending on the case, Week Contracts (from Monday to Sunday), or WeekDays Contracts (from Monday to Friday) plus Weekend Contracts (Saturday and Sunday) admitted for registration, with Delivery Periods entirely included in the Delivery Period of the Month Contract;
 - c) A rest of the month fragment that contains the remaining days of the month under delivery which do not overlap with the Delivery Period of any Contract in Registration Period.
72. After breaking down the Positions in delivery, the calculation of the VM follows these steps.
- a) Assignment of Positions in delivery to new Contracts
Contract Positions in delivery are accounted for in the new Contracts if the Delivery Periods overlap.
 - b) Netting of Positions in Delivery
All Positions in delivery assigned to the new Contracts are netted.
 - c) Clearing Price
OMIClear establishes a Clearing Price for each Contract being traded and for the rest of the month fragment in accordance with the methodology defined in Instruction B11/2014 – Reference Prices.
 - d) Weighted average buy and sell prices

Weighted average buy and sell prices are calculated for total long and short Positions, respectively, in each of the new Contracts.

The weighted average prices are calculated based on the final Position held in the various Contracts in the delivery period and in the respective Settlement Reference Price of the Last Registration Day.

e) Calculating the VM for each Contract t

The calculation of the VM value for the Contract t (VM_t)⁷ is based on the formula below:

$$VM_t = H_t \times [BQ_t \times (CRP_t - WABP_t) + SQ_t \times (WASP_t - CRP_t)]$$

Where,

H_t = number of hours corresponding to Contract t ,

BQ_t = quantity (number of contracts) of buy Transactions regarding Contracts whose delivery periods include the days considered in Contract t ,

SQ_t = quantity (number of contracts) of sell Transactions regarding Contracts whose delivery periods include the days considered in Contract t ,

CRP_t = Clearing Reference Price of Contract t ,

$WABP_t$ = weighted average of the Settlement Reference Prices on the Last Registration Day regarding the final buying Positions in Contracts which Delivery Periods include the days considered in Contract t ,

$WASP_t$ = weighted average of the Settlement Reference Prices on the Last Registration Day regarding the final selling Positions in Contracts which Delivery Periods include the days considered in Contract t .

f) Calculation of the total VM value in a given Clearing Account

The total VM value in a given Clearing Account corresponds to the sum of the VM values of each Contract t , calculated according to the formula defined in the previous paragraph. This value can be positive or negative, representing, respectively, a credit or a debit of the Member in terms of Collateral.

Variation Margin (VM) of Forward Contracts and Swap Contracts

73. The process for calculating the VM of Forward and Swap Contracts applies to the Positions in Contracts in Registration Period and to the Positions in Contracts in Delivery Period.

74. For the purpose of calculating the VM, the Positions in Contracts in Delivery Period are broken down in a way similar to the one described in paragraphs 68 to 71 and the Positions in Contracts in Registration Period are not broken down.

75. The Day Forward Contracts used in the breakdown mentioned in the previous paragraph are merely instrumental for the purpose of this procedure, and are not able to be registered in OMIClear.

76. After the breakdown and clearing of Positions in Contracts in Delivery Period, the calculation of the VM follows these steps:

a) Clearing Price

⁷ Regarding the Natural Gas Derivatives Contracts listed in the Instruction B14/2014 – Eligible Contracts, the VM amount is nil for the Day Contracts stemming from the broken down of the Positions under delivery (referred to in paragraphs 68 to 71) that reach their Last Registration Day on the VM calculation day.

OMIClear establishes a Clearing Price for each tradable Contract and for the rest of the month fragment, in accordance with the methodology defined in Instruction B11/2014 – Reference Prices.

b) Weighted average buy and sell prices

The weighted average buy prices and weighted average sell prices are calculated for the volume bought and sold, respectively;

The weighted average prices are calculated based on the total sum of the volumes bought or sold in every Transactions made in Contracts that are either in the Registration Period or in the Delivery Period and for the respective prices of those Transactions.

c) Calculation of the VM for each Contract t

The calculation of the VM for the Contract t (VM_t) is based on the following formula:

$$VM_t = H_t \times [BQ_t \times (CRP_t - WABP_t) + SQ_t \times (WASP_t - CRP_t)]$$

Where,

H_t = number of hours corresponding to Contract t ;

BQ_t = quantity (number of contracts) of buy Transactions in Contracts t ;

SQ_t = quantity (number of contracts) of sell Transactions in Contracts t ;

CRP_t = Clearing Reference Price of Contract t ;

$WABP_t$ = weighted average of the prices of Transactions based on the total buying quantity in Contracts t ;

$WASP_t$ = weighted average of the prices of Transactions based on the total selling quantity in Contracts t .

d) Calculation of the total value of VM in a given Clearing Account

The total value of VM corresponds to the sum of the VM values of each Contract t , calculated based on the formula defined in the previous paragraph. This value can be positive or negative, representing, respectively, a credit or a debit in terms of its Collateral.

Premium Margin (PM)

77. OMIclear requires the holders of Positions in Options a Premium Margin (PM) calculated as follows:

$$PM_d = \sum_{i=1}^N CRP_i \times PQO_i$$

Where,

PM_d = Premium Margin for a given Clearing Day d ;

CRP_i = Clearing Reference Price of Option i (Premium) on the Clearing Day d ;

PQO_i = net Position in Option i taking a positive value if it is a long Position, or negative if it is a short Position;

N = total of Options.

Settlement Margin (SM)

78. With regard to Swap Contracts and Forward Contracts, OMIClear requires SM for the DSV already due, but not yet invoiced on the Clearing Platform.
79. Bearing in mind that the billing procedure of the DSV regarding Swap Contracts and Forward Contracts is performed on the Clearing Platform every month, the calculation of the SM for a certain Clearing Day results from the formula shown below:

$$SM_d = \sum_{i=1}^n [DSV_i]$$

Where,

SM_d = Settlement Margin on Clearing Day d ;

i = day of delivery for which the DSV is calculated;

n = total number of delivery days for which the DSV has been calculated, but not yet invoiced on the Clearing Platform;

DSV_i = Delivery Settlement Value (for Swap Contracts and Forward Contracts) regarding delivery day i which has already been calculated but is not yet invoiced on the Clearing Platform.

80. With regard to Option Contracts, the SM intraday includes the Premium already due but not yet invoiced on the Clearing Platform, based on the following formula:

$$SM_d = \sum_{i=1}^n [P_i]$$

Where,

SM_d = Settlement Margin on a given moment of the Clearing Day d ;

P_i = Premium regarding the Transaction i in the Option Contract that has already been calculated, but is not yet invoiced on the Clearing Platform;

i = transaction in the Option Contract;

n = total number of Transactions in the Option Contract up to a given moment of the Clearing Day d .

81. As to the Futures Contract, the SM includes the DSV and the MtM already due, but not yet invoiced on the Clearing Platform, based on the following formula:

$$SM_d = \sum_{i=1}^n [DSV_i] + MtM_d$$

Where,

SM_d = Settlement Margin on a given moment of the Clearing Day d ;

i = delivery day for which the DSV was calculated;

n = total number of delivery days for which the DSV amounts were calculated but not yet invoiced in the Clearing Platform;

DSV_i = Delivery Settlement Value (regarding Futures Contracts) referring to delivery day i which was already calculated in the Clearing Platform but not yet invoiced;

MtM_d = Mark to Market referring to Clearing Day d .

Billing Margin (BM)

82. The BM required of a Clearing Member corresponds to the sum of all values invoiced on the Clearing Platform and not yet cash settled, including the MtM, DSV, Premium, trading, clearing and delivery fees, including taxes on fees.
83. Although the BM may be positive or negative on the Clearing Platform, for the purpose of Margin, i.e., for the purpose of responsibility to be covered by Collateral from the Clearing Member, OMIClear only considers negative values of BM. As such, the positive BM amounts do not impact on the margins required from the Clearing Member.
84. The invoicing procedure applicable to the MtM, DSV and Premium on the Clearing Platform depends on the type of Contract:
 - a) Futures Contracts: OMIClear invoices the MtM and DSV amounts on a daily basis, and their amounts are integrated in the Daily Financial Settlement (DFS) with a value date of the next Clearing Day;
 - b) Option Contracts: OMIClear invoices the Premium amount on a daily basis, and the amounts are integrated in the DFS with the value date of the next Clearing Day;
 - c) Forward and Swap Contracts: OMIClear invoices the DSV on a monthly basis, and the total amounts of month M are integrated in the DFS with a value date of the 10th (tenth) Clearing Day of month M+1.
85. The Billing Margin is integrated in the Daily Financial Settlement in accordance with the provisions set in Instruction B08/2014 - Financial Settlement.
86. The concept of “billing” used in this Instruction is taken to indicate solely and exclusively the generation of a report on the Clearing Platform, called “Invoice”, which includes the MtM, DSV or Premium to be settled, and has no accounting purpose.

Non-realised Profits and Losses Margin (NRPLM) for Futures Contracts

87. The NRPLM corresponds to a margin of daily Mark-to-Market (MtM) calculated during the Open Phase of the Clearing Session, based on the market price at each moment, and is an estimation of the MtM at the end of the Session.
88. Like the MtM, the NRPLM may have either a positive or a negative value, depending on whether profits or losses are being estimated in the Member’s Positions.
89. OMIClear requires that the negative values of the NRPLM during the Open Phase of the Clearing Session be set up as Margin, i.e., that they are covered by Collateral from the Clearing Member.

Physical Delivery Margin (PDM)

90. The PDM is a margin aiming to cover the specific risk of default on net Positions in Combined Commodities (defined in paragraph 38 of this Instruction) in the Natural Gas Delivery Contracts listed in Instruction B14/2014 - Eligible Contracts under delivery, according to Instruction B18/2014 – Procedures in Case of Default. In particular the PDM amount refers to the estimated losses that result from the price aggravation arising from the Unbalanced Tariff (‘Tarifa de Desbalance’) to be applied by Enagás GTS following the said default.

91. On each Clearing Day OMIClear calculates the PDM value for the net Position in the Combined Commodity CC (steps for the calculation of this net Position are detailed in paragraph 43 to 45 of this Instruction) , through the following formula:

$$PDM_{CC} = \beta \times NP_{CC} \times \sum_{j=1}^m [N_j \times \alpha (CRP_j + \beta R_j)]$$

Where,

PDM_{CC} = Physical Delivery Margin in a given Clearing Day regarding the net Position in the Combined Commodity CC;

β = parameter that assumes value (-1) when the net Position Q_c is long ($Q_c > 0$) and the value (1) when the net Position Q_c is short ($Q_c < 0$);

NP_{CC} = Net Position in the Combined Commodity CC with a Delivery Period that includes the gas delivery day j ;

- $Q_c > 0$ if long Position;
- $Q_c < 0$ if short Position;

N_j = nominal value of the Day Contract, in the reference Contract⁸ included in the Combined Commodity with delivery in gas day j . In case of Natural Gas Delivery Contracts eligible in OMIClear N_j is always 1.

α = risk parameter [$0 < \alpha \leq 1$]⁹;

CRP_j = Clearing Reference Price referring to Day Contract, in the reference Contract included in the Combined Commodity, with delivery in gas day j , on the PDM_c calculation day;

- If $j = 1$ the CRP will be the one referring to the Day Contract with delivery on the following day (CRP_{D1});
- If $j = 2$ the CRP will be the one referring to the Day Contract with delivery on the second day (CRP_{D2});
- If $j = 3$ the CRP will be the one referring to the Day Contract with delivery on the third day (CRP_{D3});

R_j = price variation with regards the Day Contract, in the reference Contract included in the Combined Commodity, with delivery in gas day j (in €/MWh).

- If $j = 1$ the R value will be the one referring to the Day Contract, in the reference Contract included in the Combined Commodity, with delivery on the following day (R_{D1});
- If $j = 2$ the R value will be the one referring to the Day Contract, in the reference Contract included in the Combined Commodity, with delivery on the second day ahead (R_{D2});
- If $j = 3$ the R value will be the one referring to the Day Contract, in the reference Contract included in the Combined Commodity, with delivery on the third day ahead (R_{D3}), and so on;
- In case net Position NP_{CC} is long, if CRP_j is lower than R_j , the Clearing Reference Price of such reference Contract included in the Combined Commodity will be the one considered (instead of the R_j);

j = "n" day of gas delivery;

m = total number of gas delivery days as from the delivery day following the PDM_{CC} calculation day until the following Clearing Day (inclusively).

92. In each Clearing Day, the PDM value results from the sum of each PDM_{CC} calculated according to the preceding formula, for all Combined Commodities with delivery in day(s) j :

⁸ The reference Contracts for each Combined Commodity are published in OMIClear's website.

⁹ Estimative of price aggravation arising from the Umbalanced Tariff applied.

$$PDM\ Total = \sum_{CC=1}^n PDM_{CC}$$

With,

PDM Total = Physical Delivery Margin in a given Clearing Day regarding all Combined Commodities CC;

CC = Combined Commodity 'n';

n = total number of Combined Commodities.

93. The risk parameter α referred in paragraph (91) is published in OMIClear's website.

Extraordinary Margin (EM)

94. To protect market security, OMIClear may require during one or more Clearing Days an Extraordinary Margin (EM), taking into consideration, in particular, the market evolution or the activity of a Clearing Member.

95. The EM aims also to cover expectable losses of a Clearing Member, namely when during the Open Phase of the Clearing Session there is a price variation that suggests that effect on the group of Positions cleared by that Member.

96. In the situation referred to in the preceding paragraph, and once the Open Phase of the Clearing Session is closed:

- a) The Collateral pledged during the session for the Extraordinary Margin purpose will become part of the group of assets deposited as Collateral by the Clearing Member;
- b) The concept of Extraordinary Margin no longer applies, since the losses, previously considered as potential, will be included in the Day Financial Settlement (DFS) concerning that Session, or are required as Variation Margin;
- c) If the Extraordinary Margin is covered by means of cash Collateral, the portion exceeding the OMIClear's requirements is automatically included in the DFS concerning that Session.

97. OMIClear requires an Extraordinary Margin to Clearing Members which have concentrated positions. The criteria for determining the concentrated positions and respective Extraordinary Margin required are published in OMIClear's website.

98. The Clearing Members must transfer the assets required to cover the Extraordinary Margin call within the time period set for that purpose in the notification from OMIClear.

D. ENTRY INTO EFFECT

99. This Instruction has been registered with CMVM on the July, 9th 2021 and enters into effect on the July, 27th 2021.

The Board of Directors