

NOTICE TO MEMBERS

No. 2020 - 074 June 8, 2020

SELF-CERTIFICATION

AMENDMENTS TO THE RULES, OPERATIONS MANUAL AND RISK MANUAL OF THE CANADIAN DERIVATIVES CLEARING CORPORATION TO INTRODUCE CORRA FUTURES

On February 3, 2020, the Board of Directors of the Canadian Derivatives Clearing Corporation ("CDCC") approved amendments to the Rules, Operations Manual and Risk Manual of CDCC to introduce CORRA futures contracts. CDCC wishes to inform the Clearing Members that these amendments have been self-certified pursuant to the self-certification process set forth in the *Derivatives Act* (C.Q.L.R., c I-14.01) and submitted to the Ontario Securities Commission in accordance with the "Rule Change Not Requiring Approval in Ontario" process.

You will find attached hereto the amendments set to come into force and to be incorporated into the version of the Rules, Operations Manual and Risk Manual of CDCC that will be made available on the CDCC website at www.cdcc.ca on June 12, 2020.

If you have any questions or concerns regarding this notice, please contact Alexandre Normandeau at 514-787-6623 or at alexandre.normandeau@tmx.com.

Jay Rajarathinam President

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MODIFIED VERSION

PART C – FUTURES

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RULE C-17 30-DAY OVERNIGHT REPO RATECORRA FUTURES (SYMBOL - ONXCRA & COA)

The Sections of this Rule C-17 are applicable only to Futures settling on a future date where the Underlying Interest is the One-Month CORRA Futures 30-day Overnight Repo Rate (COA) and Three-Month CORRA Futures (CRA) (the "CORRA Futures").

Section C-1701 DEFINITIONS

Notwithstanding Section A-102, for the purposes of the 30 day Overnight Repo Rate CORRA Futures contracts, the following terms are as defined:

"Average daily CORRA" – COA – The Average daily CORRA is the arithmetic average of daily CORRA values during the contract (settlement) month. It is calculated in accordance with the rules of the Exchange.

"Compounded Overnight Repo Ratedaily CORRA" – CRA –

The_Compounded <u>daily Overnight Repo Rate CORRA</u> is <u>the the rate of return of acompounded</u> daily <u>CORRA values compound interest investment at the Overnight Repo RateCORRA rate over during the reference quarter of the contract</u>. It is calculated in accordance with the <u>rules of the Exchange</u>, and the reference quarter is determined by the Exchange. <u>following formula:</u>

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{ORR_i \times n_i}{365} \right) - 1 \right] \times \frac{365}{d} \times 100$$

" $\frac{d}{d}$ ", the number if Business Days in the calculation period;

"i" is a series of whole numbers from one to d_o , each representing the relevant Business Day in chronological order from, and including, the first Business Day in the relevant Calculation Period;

 ORR_i = Overnight Repo on the i^{th} day of the calculation period (if the i^{th} day is not a business day, the previous available Overnight Repo Rate is used);

"n;" is the number of calendar days in the relevant Calculation Period on which the rate is ORR_{i} :

"d" is the number of calendar days in the relevant Calculation Period.



"CORRA" – means the Canadian Overnight Repo Rate Average (CORRA) as determined by the appointed CORRA benchmark administrator.

"CORRA Index" – the CORRA Index , the value of the Average CORRA or Compounded CORRA is rounded to the nearest 1/100th of a basis point. In the case a decimal fraction ends with 0.00005 or higher, the rate shall be rounded up is calculated on the basis of based on realized CORRA values during the settlement month of the contract (COA) or the reference quarter of the contract (CRA).

- COA - The CORRA Index for COA is 100 minus the Average daily CORRA.

<u>– CRA – The CORRA Index for CRA is 100 minus Compounded daily CORRA.</u>

"Final Settlement Price" – The Final Settlement Price shall be determined by the Exchange on which the Futures trade on the First Business Day following the last day of trading. It i

and

<u>COA</u> will beis equal to 100 minus the arithmetic average of daily CORRA values during the settlement month Average daily CORRA.

<u>CRA</u> will be is equal to 100 minus the R value evaluated on the basis of realized CORRA values during calculation periodCompounded CORRA Index.

will be equal to the Overnight Repo Rate Index calculated over the period of the contract month that begins on the first calendar day of the contract month and ends on the last calendar day of the contract month. The Final Settlement Price is determined on the First Business Day following the last day of trading.

"Multiplier" – The Multiplier is the value of the tick used to calculate the size of the contract as specified by the Exchange on which the Futures trade.

<u>"Overnight RepoCORRA Rate"</u> means the Canadian Overnight Repo Rate (CORRA) as determined by the appointed CORRA benchmark administrator, currently Thomson Reuters.

"Overnight Repo<u>CORRA</u> Rate Index" The value of the CORRA Index is rounded to the nearest 1/1000th of a percentage point. In the case a decimal fraction ends with 0.0005 or higher, the CORRA Index shall be rounded up.

-COA The CORRA Index for COA is 100 minus the Average CORRA.

<u>___COA__</u>

-CRA -CRA

The Overnight Repo Rate <u>CORRA</u> Index <u>for CRA</u> is 100 minus Compounded Overnight Repo Rate <u>CORRA</u>. The value of the Overnight Repo <u>CORRA</u> Rate Index is rounded to the nearest 1/1000th of a percentage point. In the case a decimal fraction ends with 0.0005 or higher, the Overnight Repo Rate <u>CORRA</u> Index shall be rounded up.



"Underlying Interest" - means

<u>- COA – the Average daily Canadian Overnight Repo Rate Average (CORRA) during the contract month, which month corresponds to the settlement month of the contract.</u>

— CRA – the compounded daily Canadian Overnight Repo Rate Average (Compounded daily CORRA) during the reference quarter. "Reference quarters" are based on International Monetary Market (IMM) dates – for a given contract, it shall be the interval from (and including) the third Wednesday of the third month preceding the Settlement Month, to (and not including) the third Wednesday of the Settlement Month. The Underlying Interest is the Overnight Repo Rate calculated on a 30 day basis and quoted in terms of an Overnight Repo Rate Index.

Section C-1702 SETTLEMENT IN CASH THROUGH THE CORPORATION

Unless otherwise specified by the Corporation, settlement of positions held following the close of trading on the last day of trading in a Series of Futures shall be on the first Business Day following the last day of trading. Settlement shall be made by an exchange of cash between the Corporation and each of the short and long Clearing Members. The amount to be paid or received in final settlement of each position opened on or prior to the last day of trading shall be the difference between

- (i) the Final Settlement Price; and
- (ii) the Settlement Price of the contract on the last day of trading,

multiplied by the Multiplier of the contract.

Section C-1703
TENDER NOTICES

Rule C-5 shall not apply to 30-day Overnight Repo Rate CORRA Futures as they are cash-settled.

Section C-1704 ADJUSTMENTS

No adjustments will ordinarily be made in the terms of the 30-day Overnight Repo Rate CORRA Futures in the event that the Overnight Repo Rate CORRA Index is changed. However, if the Corporation shall determine in its sole discretion that any such change causes significant discontinuity in the level of the Overnight Repo Rate CORRA Index, the Corporation may adjust the terms of the affected Overnight Repo Rate CORRA Futures by taking such action as the Corporation in its sole discretion deems fair to Clearing Members holding Long and Short Positions.

In the event that a governmental agency or body issues an order, ruling, directive or law pertaining to repo transactions and the Corporation determines that a discontinuity in the level of the Overnight Repo Rate CORRA Index is caused by such a Government order, it shall take such action as it deems necessary and fair under the circumstances.



Section C-1705 UNAVAILABILITY OR INACCURACY OF CURRENT VALUE

- (1) If the Corporation shall determine that the Final Settlement Price for any series of 30 day Overnight Repo Rate CORRA Futures is unreported or otherwise unavailable for purposes of calculating the gains and losses, then, in addition to any other actions that the Corporation may be entitled to take under the Rules, the Corporation may do any or all of the following:
 - (a) Suspend the Settlement of Gains and Losses. At such time as the Corporation determines that the required Final Settlement Price is available, the Corporation shall fix a new date for Settlement of the Gains and Losses.
 - (b) Fix the Final Settlement Price in accordance with the best information available as to the correct Final Settlement Price.
- (2) The Final Settlement Price as reported by the Exchange on which the Futures trade shall be conclusively deemed to be accurate except that where the Corporation determines in its sole discretion that there is a material inaccuracy in the reported Final Settlement Price it may take such action as it determines in its discretion to be fair and appropriate in the circumstances. Without limiting the generality of the foregoing, the Corporation may require an amended Final Settlement Price to be used for settlement purposes.

DISCLAIMER: THE 30 DAY OVERNIGHT REPO RATECORRA FFUTURES (ONXCOA & CRA) IS NOT SPONSORED, ENDORSED, SOLD OR PROMOTED BY THOMSON REUTERS CANADA LIMITED OR ANY OF ITS SUBSIDIARIES OR AFFILIATES—("THOMSON REUTERS"). THOMSON REUTERS MAKE NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, TO THE OWNERS OF THE PRODUCT OR ANY MEMBER OF THE PUBLIC REGARDING THE ADVISABILITY OF INVESTING IN SECURITIES GENERALLY OR IN THE PRODUCT PARTICULARLY OR THE ABILITY OF THE CORRA (CANADIAN OVERNIGHT REPO RATE AVERAGE) (THE "BENCHMARK") TO TRACK GENERAL MARKET PERFORMANCE. THOMSON REUTERS ONLY RELATIONSHIP TO THE PRODUCT ANO THE BOURSE DE MONTREAL INC. (THE "LICENSEE") IS THE LICENSING OF THE BENCHMARK, WHICH IS ADMINISTERED, CALCULATED AND DISTRIBUTED BY THOMSON REUTERS WITHOUT REGARD TO THE LICENSEE OR THE PRODUCT. THOMSON REUTERS HAS NO OBLIGATION TO TAKE THE NEEDS OF THE LICENSEE OR THE OWNERS OF THE PRODUCT INTO CONSIDERATION IN CONNECTION WITH THE FOREGOING. THOMSON REUTERS IS NOT RESPONSIBLE FOR ANO HAS NOT PARTICIPATED IN THE DETERMINATION OF, THE TIMING OF, PRICES AT, OR QUANTITIES OF THE PRODUCT TO BE ISSUED OR IN THE DETERMINATION OR CALCULATION OF THE EQUATION BY WHICH THE PRODUCT IS TO BE CONVERTED INTO CASH.

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[...]



RULE C-22

[RESERVED]

The Sections of this Rule C-22 are applicable only to Futures settling on a future date where the Underlying Interest is the Compounded Overnight Repo Rate over the period of the Contract Month

SECTION C-2201 DEFINITIONS

Notwithstanding Section A 102, for the purposes of the Overnight Index Swap Futures Contracts, the following terms are as defined:

"Final Settlement Price" the Final Settlement Price shall be determined by the Exchange and will be equal to the Overnight Repo Rate Index calculated over the period of the Contract Month. The Final Settlement Price is determined on the first business day following the last day of trading.

"Multiplier" the value of the tick used to calculate the size of the contract as specified by the Exchange on which the Futures trade.

"Overnight Repo Rate Index" 100 minus the Compounded Overnight Repo Rate. The value of the Overnight Repo Rate Index is rounded to the nearest 1/1000th of a percentage point. In the case a decimal fraction ends with 0.0005 or higher, the Overnight Repo Rate Index shall be rounded up.

"Compounded Overnight Repo Rate"

The Compounded Overnight Repo Rate is the rate of return of a daily compound interest investment at the Overnight Repo Rate. It is calculated in accordance with the following formula:

$$\left[\prod_{i=1}^{d_0} \left(1 + \frac{ORR_i \times n_i}{365}\right) - 1\right] \times \frac{365}{d} \times 100$$

where:

"d_a", the number of Business Days in the calculation period;

"i" is a series of whole numbers from one to d_o , each representing the relevant Business Day in chronological order from, and including, the first Business Day in the relevant Calculation Period;

 ORR_i = Overnight Repo Rate on the $\dot{\tau}^{th}$ day of the calculation period (if the $\dot{\tau}^{th}$ day is not a business day, the previous available Overnight Repo Rate is used);

" n_i " is the number of calendar days in the relevant Calculation Period on which the rate is ORR_i ;



"d" is the number of calendar days in the relevant Calculation Period.

- "Overnight Repo Rate" means the Canadian Overnight Repo Rate (CORRA) as determined by the appointed CORRA benchmark administrator, currently Thomson Reuters.
- "Underlying Interest" the Compounded Overnight Repo Rate quoted in terms of an Overnight Repo Rate Index.
- "Contract Month" the period that begins the day following the last Bank of Canada Fixed Announcement Date to the day of the next Bank of Canada Fixed Announcement Date.
- "Fixed Announcement Date" the pre-specified date on which the Bank of Canada announces their decision on the target for the Overnight Repo Rate

SECTION C-2202 SETTLEMENT IN CASH THROUGH THE CORPORATION

Unless otherwise specified by the Corporation, settlement of positions held following the close of trading on the last day of trading in a Series of Futures shall be on the first Business Day following the last day of trading. Settlement shall be made by an exchange of cash between the Corporation and each of the short and long Clearing Members. The amount to be paid or received in final settlement of each position opened on or prior to the last day of trading shall be the difference between

- (i) the Final Settlement Price; and
- (ii) the Settlement Price of the contract on the last day of trading,

multiplied by the Multiplier of the contract.

SECTION C-2203 TENDER NOTICES

Rule C 5 shall not apply to Overnight Index Swap Futures as they are cash settled.

SECTION C-2204 ADJUSTMENTS

No adjustments will ordinarily be made in the terms of the Overnight Index Swap Futures in the event that the Overnight Repo Rate Index is changed. However, if the Corporation shall determine in its sole discretion that any such change causes significant discontinuity in the level of the Overnight Repo Rate Index, the Corporation may adjust the terms of the affected Overnight Index Swap Futures by taking such action as the Corporation in its sole discretion deems fair to Clearing Members holding Long and Short Positions.

In the event that a governmental agency or body issues an order, ruling, directive or law pertaining to repotransactions and the Corporation determines that a discontinuity in the level of the Overnight Repo Rate



Index is caused by such a Government order, it shall take such action as it deems necessary and fair under the circumstances.

SECTION C-2205 UNAVAILABILITY OR INACCURACY OF CURRENT VALUE

- (3) If the Corporation shall determine that the Final Settlement Price for any series of Overnight Index Swap Futures is unreported or otherwise unavailable for purposes of calculating the gains and losses, then, in addition to any other actions that the Corporation may be entitled to take under the Rules, the Corporation may do any or all of the following:
 - (a) Suspend the Settlement of Gains and Losses. At such time as the Corporation determines that the required Final Settlement Price is available, the Corporation shall fix a new date for Settlement of the Gains and Losses.
 - (b) Fix the Final Settlement Price in accordance with the best information available as to the correct Final Settlement Price.
- (4) The Final Settlement Price as reported by the Exchange on which the Futures trade shall be conclusively deemed to be accurate except that where the Corporation determines in its sole discretion that there is a material inaccuracy in the reported Final Settlement Price it may take such action as it determines in its discretion to be fair and appropriate in the circumstances. Without limiting the generality of the foregoing, the Corporation may require an amended Final Settlement Price to be used for settlement purposes.

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[...]



PART D – OVER-THE-COUNTER INSTRUMENTS ("OTCI")

RULE D-6 CLEARING OF FIXED INCOME TRANSACTIONS

The Sections of this Rule D-6 are applicable only to the clearing of Fixed Income Transactions by the Corporation, to the Limited Clearing Members and to those Clearing Members who are required to make a base deposit to the Clearing Fund for Fixed Income Clearing as set out in Paragraph A-601(2)(d).

Section D-601 DEFINITIONS

Notwithstanding Section A-102, for the purposes of Fixed Income Clearing, the following terms are defined as follows:

[...]

"CORRA Rate" – means the Canadian Overnight Repo Rate Average (CORRA) as determined by the appointed CORRA benchmark administrator means the compounded daily Canadian Overnight Repo Rate Average, as determined by the appointed CORRA benchmark administrator, currently Thomson Reuters.

CLEAN VERSION

PART C – FUTURES

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RULE C-17 CORRA FUTURES (SYMBOL CRA & COA)

The Sections of this Rule C-17 are applicable only to Futures settling on a future date where the Underlying Interest is the Average daily CORRA (COA) or the Compounded daily CORRA (CRA) (the "CORRA Futures"), as defined below.

SECTION C-1701 DEFINITIONS

Notwithstanding Section A-102, for the purposes of the CORRA Futures contracts, the following terms are as defined:

- "Average daily CORRA" COA The Average daily CORRA is the arithmetic average of daily CORRA values during the contract month, which month corresponds to the settlement month of the contract. It is calculated in accordance with the rules of the Exchange.
- "Compounded daily CORRA" CRA The Compounded daily CORRA is the compounded daily CORRA values during the reference quarter of the contract. It is calculated in accordance with the rules of the Exchange and the reference quarter is determined by the Exchange.
- "CORRA" means the Canadian Overnight Repo Rate Average (CORRA) as determined by the appointed CORRA benchmark administrator.
- "CORRA Index" the CORRA Index is calculated based on realized CORRA values during the settlement month of the contract (COA) or the reference quarter of the contract (CRA).
 - COA The CORRA Index for COA is 100 minus the Average daily CORRA.
 - CRA The CORRA Index for CRA is 100 minus Compounded daily CORRA.
- "Final Settlement Price" The Final Settlement Price shall be determined by the Exchange on which the Futures trade on the First Business Day following the last day of trading. It is equal to the CORRA Index.
- "Multiplier" The Multiplier is the value of the tick used to calculate the size of the contract as specified by the Exchange on which the Futures trade.
- "Underlying Interest" means
 - − COA − the Average daily CORRA.



- CRA - the Compounded daily CORRA.

SECTION C-1702 SETTLEMENT IN CASH THROUGH THE CORPORATION

Unless otherwise specified by the Corporation, settlement of positions held following the close of trading on the last day of trading in a Series of Futures shall be on the first Business Day following the last day of trading. Settlement shall be made by an exchange of cash between the Corporation and each of the short and long Clearing Members. The amount to be paid or received in final settlement of each position opened on or prior to the last day of trading shall be the difference between

- (i) the Final Settlement Price; and
- (ii) the Settlement Price of the contract on the last day of trading,

multiplied by the Multiplier of the contract.

SECTION C-1703
TENDER NOTICES

Rule C-5 shall not apply to CORRA Futures as they are cash-settled.

SECTION C-1704 ADJUSTMENTS

No adjustments will ordinarily be made in the terms of the CORRA Futures in the event that the CORRA Index is changed. However, if the Corporation shall determine in its sole discretion that any such change causes significant discontinuity in the level of the CORRA Index, the Corporation may adjust the terms of the affected CORRA Futures by taking such action as the Corporation in its sole discretion deems fair to Clearing Members holding Long and Short Positions.

In the event that a governmental agency or body issues an order, ruling, directive or law pertaining to repo transactions and the Corporation determines that a discontinuity in the level of the CORRA Index is caused by such a Government order, it shall take such action as it deems necessary and fair under the circumstances.

SECTION C-1705 UNAVAILABILITY OR INACCURACY OF CURRENT VALUE

(1) If the Corporation shall determine that the Final Settlement Price for any series of CORRA Futures is unreported or otherwise unavailable for purposes of calculating the gains and losses, then, in



addition to any other actions that the Corporation may be entitled to take under the Rules, the Corporation may do any or all of the following:

- (a) Suspend the Settlement of Gains and Losses. At such time as the Corporation determines that the required Final Settlement Price is available, the Corporation shall fix a new date for Settlement of the Gains and Losses.
- (b) Fix the Final Settlement Price in accordance with the best information available as to the correct Final Settlement Price.
- (2) The Final Settlement Price as reported by the Exchange on which the Futures trade shall be conclusively deemed to be accurate except that where the Corporation determines in its sole discretion that there is a material inaccuracy in the reported Final Settlement Price it may take such action as it determines in its discretion to be fair and appropriate in the circumstances. Without limiting the generality of the foregoing, the Corporation may require an amended Final Settlement Price to be used for settlement purposes.

[...]



RULE C-22

[RESERVED]

[...]



PART E – OVER-THE-COUNTER INSTRUMENTS ("OTCI")

RULE D-6 CLEARING OF FIXED INCOME TRANSACTIONS

The Sections of this Rule D-6 are applicable only to the clearing of Fixed Income Transactions by the Corporation, to the Limited Clearing Members and to those Clearing Members who are required to make a base deposit to the Clearing Fund for Fixed Income Clearing as set out in Paragraph A-601(2)(d).

SECTION D-601 DEFINITIONS

Notwithstanding Section A-102, for the purposes of Fixed Income Clearing, the following terms are defined as follows:

[...]

"CORRA Rate" – means the Canadian Overnight Repo Rate Average (CORRA) as determined by the appointed CORRA benchmark administrator.



CANADIAN DERIVATIVES CLEARING CORPORATION CORPORATION CANADIENNE DE COMPENSATION DE PRODUITS DÉRIVÉS

OPERATIONS MANUAL

AUGUST 15, 2019



Section: 6 - 6

EXERCISES, TENDERS, ASSIGNMENTS AND DELIVERIES

FUTURES

Submission of Tender Notices

Tender Notices must be submitted before Close of Business during the relevant FIFO Period (which, subject to any contract adjustment by the Exchange, shall be as follows):

CGB, CGF, CGZ and LGB

two Business Days preceding the first Business Day of the Delivery Month up to and including the second last Business Day preceding the last Business Day of the Delivery Month.

MCX

before Close of Business on the last trading day.

All outstanding Short Positions in BAX, EMF, SXF, SXM, SCF, Sector Index Futures, Share Futures, and Options on Futures are automatically tendered on the last trading day, as per Contract Specifications, after Close of Business.

All outstanding Short Positions in <u>COAONX</u>, <u>CRAOIS</u> are automatically tendered on the first Business Day following the contract monthlast trading day, as per Contract Specifications, after Close of Business.



CANADIAN DERIVATIVES CLEARING CORPORATION CORPORATION CANADIENNE DE COMPENSATION DE PRODUITS DÉRIVÉS

OPERATIONS MANUAL



Section: 6 - 6

EXERCISES, TENDERS, ASSIGNMENTS AND DELIVERIES

FUTURES

Submission of Tender Notices

Tender Notices must be submitted before Close of Business during the relevant FIFO Period (which, subject to any contract adjustment by the Exchange, shall be as follows):

CGB, CGF, CGZ and LGB

two Business Days preceding the first Business Day of the Delivery Month up to and including the second last Business Day preceding the last Business Day of the Delivery Month.

MCX

before Close of Business on the last trading day.

All outstanding Short Positions in BAX, EMF, SXF, SXM, SCF, Sector Index Futures, Share Futures, and Options on Futures are automatically tendered on the last trading day, as per Contract Specifications, after Close of Business.

All outstanding Short Positions in COA, CRA are automatically tendered on the first Business Day following the last trading day, as per Contract Specifications, after Close of Business.



RISK MANUAL



Section 1: Margin Deposits

As set out in the Rules, every Clearing Member shall be obligated to deposit Margin with the Corporation, as determined by the Corporation. Deposits must be made in the form of eligible collateral, as specified in Section 2 of this Risk Manual, in an amount sufficient, taking into account the market value and applicable Haircuts.

The Corporation requires Margin Deposits to cover two types of requirements, namely:

- Margin requirement; and
- Clearing Fund Requirement.

1.1 MARGIN REQUIREMENT

The Margin requirement is composed of the Initial Margin and the Variation Margin.

[...]

1.1.3 Account Structure, Netting and Risk Aggregation

1.1.3.1 Short Positions, Account Types and Positions Netting

Clearing Members shall not be required to deposit Margin in respect of Short Positions in Futures or Options for which they have deposited the Underlying Interest in accordance with Section A-7068 of the Rules.

The Corporation uses three types of accounts for Margin calculation purposes and positions management: Firm Account, Multi-Purpose Account and Client Account.

- For all account types, the Margin requirement for Futures positions and Fixed Income Transactions is calculated on a net basis.
- The Margin requirement for Options is calculated on a net basis for the Firm Account and the Multi-Purpose Account, but on a gross basis for the Client Account, which means that only short Options are considered when computing the Initial Margin.



Section 6: Appendix

6.1 BASE INITIAL MARGIN CALCULATION FOR OPTIONS, FUTURES AND UNSETTLED ITEMS

[...]

6.1.2 Intra-Commodity

Long positions on Futures maturing in one month are automatically matched with short positions on Futures maturing in another month. The resulting Base Initial Margin on these two Futures belonging to the same Combined Commodity, could be lower than the real risk associated with the combination of the two contracts. In order to cover this inter-month spread risk, a charge is included in the Base Initial Margin.

For the Futures, the Intra-Commodity which is an additional dollar amount charge applied to each combination of two different Futures, is determined as follows:

$$Intra - Commodity = \alpha \times \sqrt{n} \times \sigma$$

Where 'n' is the number of MPOR, ' α ' is equal to the confidence value equivalent to 99.87% (three standard deviations) of the cumulative normal distribution (applicable to all products except for the Three-Month Canadian Bankers' Acceptance Futures (BAX) and CORRA Futures (COA & CRA)) or equal to the confidence value equivalent to 99% of the cumulative student's t-distribution with 4 degrees of freedom (applicable to the BAX and CORRA Futures). ' σ ' is the volatility estimator of the Futures combination's daily profit and loss over the reference period and is computed using the EWMA approach. Further details on the EWMA are described in Appendix 6.5.

In addition, CDCC considers a floor for the EWMA volatility estimator. The level of such floor is calculated as an average of daily EWMA volatility estimator observed over the last 10 years. The EWMA volatility estimator that will be used to calculate the Intra-Commodity cannot be lower than the calculated floor.

With respect to the BAX<u>and CORRA Futures</u>, (COA & CRA), CDCC calculates the Intra-Commodity for all combinations of spreads and butterfly–strategies and applies a same charge for a same group of combinations with close maturities. If multiple Intra-Commodity are defined, the Corporation will prioritize the ones providing the lowest Base Initial Margin.

The combinations and the spread priorities for the Intra-Commodity are updated by CDCC from time to time.



[...]

6.5 MARGIN INTERVAL

The MI is calculated using the following formula:

$$MI = \alpha \times \sqrt{n} \times \sigma$$

Where 'n' is the MPOR, ' α ' is equal to the confidence level equivalent to 99.87% (three standard deviations) of the cumulative normal distribution (applicable to all products except for the BAX <u>and CORRA</u> Futures) or equal to the confidence value equivalent to 99% of the cumulative student's t-distribution with 4 degrees of freedom (applicable to the BAX <u>and CORRA</u> Futures). ' σ ' is the volatility estimator of the contract's returns and is computed using an exponentially weighted moving average (EWMA) approach.

The implemented formula for the estimator at any time *t* is:

$$Intra - Commodity = \alpha \times \sqrt{n} \times \sigma$$

$$\sigma_t = \sqrt{\frac{(1-\lambda)\sum_{i=1}^{260}\lambda^{i-1}(R_{t-i}-\bar{R})^2}{(1-\lambda^{260})}}$$

Where R is the daily price returns of the Underlying Interests for Options and Share Futures and the daily price returns of the Futures prices for Futures (excluding Share Futures), \overline{R} is the mean return over the specified period and λ is the decay factor. CDCC uses $\lambda = 0.99$.

In addition, CDCC considers a floor for the EWMA volatility estimator defined above. The level of such floor is calculated as an average of daily EWMA volatility estimator observed over the last 10 years. The volatility estimator that will be used to calculate the MI cannot be lower than the calculated floor.



RISK MANUAL



Section 1: Margin Deposits

As set out in the Rules, every Clearing Member shall be obligated to deposit Margin with the Corporation, as determined by the Corporation. Deposits must be made in the form of eligible collateral, as specified in Section 2 of this Risk Manual, in an amount sufficient, taking into account the market value and applicable Haircuts.

The Corporation requires Margin Deposits to cover two types of requirements, namely:

- Margin requirement; and
- Clearing Fund Requirement.

1.1 MARGIN REQUIREMENT

The Margin requirement is composed of the Initial Margin and the Variation Margin.

[...]

1.1.3 Account Structure, Netting and Risk Aggregation

1.1.3.1 Short Positions, Account Types and Positions Netting

Clearing Members shall not be required to deposit Margin in respect of Short Positions in Futures or Options for which they have deposited the Underlying Interest in accordance with Section A-706 of the Rules.

The Corporation uses three types of accounts for Margin calculation purposes and positions management: Firm Account, Multi-Purpose Account and Client Account.

- For all account types, the Margin requirement for Futures positions and Fixed Income Transactions is calculated on a net basis.
- The Margin requirement for Options is calculated on a net basis for the Firm Account and the Multi-Purpose Account, but on a gross basis for the Client Account, which means that only short Options are considered when computing the Initial Margin.



Section 6: Appendix

6.1 BASE INITIAL MARGIN CALCULATION FOR OPTIONS, FUTURES AND UNSETTLED ITEMS

[...]

6.1.2 Intra-Commodity

Long positions on Futures maturing in one month are automatically matched with short positions on Futures maturing in another month. The resulting Base Initial Margin on these two Futures belonging to the same Combined Commodity, could be lower than the real risk associated with the combination of the two contracts. In order to cover this inter-month spread risk, a charge is included in the Base Initial Margin.

For the Futures, the Intra-Commodity which is an additional dollar amount charge applied to each combination of two different Futures, is determined as follows:

$$Intra - Commodity = \alpha \times \sqrt{n} \times \sigma$$

Where 'n' is the number of MPOR, ' α ' is equal to the confidence value equivalent to 99.87% (three standard deviations) of the cumulative normal distribution (applicable to all products except for the Three-Month Canadian Bankers' Acceptance Futures (BAX) and CORRA Futures (COA & CRA)) or equal to the confidence value equivalent to 99% of the cumulative student's t-distribution with 4 degrees of freedom (applicable to the BAX and CORRA Futures). ' σ ' is the volatility estimator of the Futures combination's daily profit and loss over the reference period and is computed using the EWMA approach. Further details on the EWMA are described in Appendix 6.5.

In addition, CDCC considers a floor for the EWMA volatility estimator. The level of such floor is calculated as an average of daily EWMA volatility estimator observed over the last 10 years. The EWMA volatility estimator that will be used to calculate the Intra-Commodity cannot be lower than the calculated floor.

With respect to the BAX and CORRA Futures (COA & CRA), CDCC calculates the Intra-Commodity for all combinations of spreads and butterfly–strategies and applies a same charge for a same group of combinations with close maturities. If multiple Intra-Commodity are defined, the Corporation will prioritize the ones providing the lowest Base Initial Margin.

The combinations and the spread priorities for the Intra-Commodity are updated by CDCC from time to time.



[...]

6.5 MARGIN INTERVAL

The MI is calculated using the following formula:

$$MI = \alpha \times \sqrt{n} \times \sigma$$

Where 'n' is the MPOR, ' α ' is equal to the confidence level equivalent to 99.87% (three standard deviations) of the cumulative normal distribution (applicable to all products except for the BAX and CORRA Futures) or equal to the confidence value equivalent to 99% of the cumulative student's t-distribution with 4 degrees of freedom (applicable to the BAX and CORRA Futures). ' σ ' is the volatility estimator of the contract's returns and is computed using an exponentially weighted moving average (EWMA) approach.

The implemented formula for the estimator at any time *t* is:

$$Intra - Commodity = \alpha \times \sqrt{n} \times \sigma$$

$$\sigma_t = \sqrt{\frac{(1-\lambda)\sum_{i=1}^{260}\lambda^{i-1}(R_{t-i}-\bar{R})^2}{(1-\lambda^{260})}}$$

Where R is the daily price returns of the Underlying Interests for Options and Share Futures and the daily price returns of the Futures prices for Futures (excluding Share Futures), \overline{R} is the mean return over the specified period and λ is the decay factor. CDCC uses $\lambda = 0.99$.

In addition, CDCC considers a floor for the EWMA volatility estimator defined above. The level of such floor is calculated as an average of daily EWMA volatility estimator observed over the last 10 years. The volatility estimator that will be used to calculate the MI cannot be lower than the calculated floor.