



NOTICE TO MEMBERS

No. 2015 – 063

May 22, 2015

SELF-CERTIFICATION

AMENDMENTS TO THE OPERATIONS MANUAL AND RISK MANUAL OF CDCC TO ADDRESS ITS INTRA-DAY VARIATION MARGIN EXPOSURE

On October 31, 2014, the Board of Directors of the Canadian Derivatives Clearing Corporation (CDCC) approved amendments to the Operations Manual and Risk Manual of CDCC. CDCC wishes to inform the Clearing Members that this amendments have been self-certified pursuant to the self-certification process set forth in the *Derivatives Act* (R.S.Q., c I-14.01) and approved by the Ontario Securities Commission in accordance with the “Rule Change Requiring Approval in Ontario” process.

The purpose of the amendments is to implement a new framework to ensure compliance with PFMI requirements (principle 6) in order to manage its intra-day variation margin exposure.

You will find attached hereto the amendments set to come into force and to be incorporated into the version of the Operations Manual and Risk Manual of CDCC that will be made available on the CDCC website at www.cdcc.ca as of May 25, 2015.

If you have any questions or concerns regarding this notice, please contact CDCC’s Corporate Operations department or direct your e-mail inquiries to cdcc-ops@cdcc.ca.

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**CANADIAN DERIVATIVES CLEARING CORPORATION
CORPORATION CANADIENNE DE COMPENSATION DE PRODUITS DÉRIVÉS**

OPERATIONS MANUAL

VERSION OF ~~AUGUST 1~~, 2014

TIME FRAMES FOR ON-LINE ACCESS (continued)**ON EVERY BUSINESS DAY (continued)**

Activity	Deadlines
Futures – Request for Standard vs Mini Offset	5:00 p.m.
Futures – Tender Notices submission	5:30 p.m.
Options – Exercise Notices submission	5:30 p.m.
CDCC Clearing Application shutdown – Close of Business	5:30 p.m.
Fixed Income Transactions – available (next Business Day start)	7:00 p.m.
Unsettled Item	
Confirmation of settled items to be sent to CDCC	4:15 p.m.
Daily Capital Margin Monitoring Calls	
CDCC notifies Clearing Members of additional Margin required	9:30 a.m.
Clearing Member’s obligation to cover any deficit	12:00 (noon)
<u>Additional Margin for Intra-Day Variation Margin Risk</u>	
<u>CDCC notifies Clearing Members of additional Margin required</u>	<u>1:45 p.m.</u>
<u>Clearing Member’s obligation to cover any deficit</u>	<u>2:45 p.m.</u>

TIME FRAMES FOR ON-LINE ACCESS (continued on next page)

DIFFERENCE FUND

The Difference Fund is Margin Deposits held by CDCC as discretionary margin, such as: (1) Unsettled Items Margin, (2) Daily Capital Margin Monitoring, (3) Advance calls for settlement of losses, (4) OTCI Additional Margin, ~~and~~ (5) Intra-Day Margin, and (6) Additional Margin for Intra-Day Variation Margin Risk. CDCC accepts Deposits to the Difference Fund in the forms of Margin set forth in Section A-709 of the Rules, in the proportions specified therein.

(1) Unsettled Items Margin

Security Funds, as such term is defined in Sections B-401, C-501 and D-301 of the Rules, corresponding to an amount equal to not less than 105% of the market value of the Underlying Interest which a Clearing Member has failed to timely deliver, in accordance with Sections B-412, C-517 and D-307 respectively of the Rules.

(2) Daily Capital Margin Monitoring

The amount by which the Margin requirements of a Clearing Member exceeds its capital, in accordance with Section A-710 of the Rules.

(3) Advance Calls for Settlement of Losses

An amount that CDCC estimates will be needed to meet losses resulting from particular marked conditions or price fluctuations, in accordance with Section C-303 of the Rules.

(4) OTCI Additional Margin

An amount representing the premium value collected from the Buyer before an OTCI Option is confirmed, which amount shall be available for withdrawal the morning after the Transaction has been processed, in accordance with Section D-107 of the Rules.

(5) Intra-Day Margin

Additional margin may be requested from a Clearing Member, at CDCC's sole discretion at any time and from time to time as it deems appropriate, due to some adverse change in the market of a given Underlying Interest or in the financial position of the Clearing Member, in accordance with Section A-705 of the Rules.

(6) Additional Margin for Intra-Day Variation Margin Risk

Additional margin will be applied to Futures contracts where Intra-Day Variation Margin Risk, as defined in the Risk Manual, arises.

Deposits, Withdrawals, Substitutions

Deposits, withdrawals and substitutions of assets (other than cash) in the Difference Fund are made in the same manner and subject to the same deadlines as Margin Fund deposits, withdrawals and substitutions of assets (other than cash), in accordance with Section 2 of this Operations Manual.

Note:

Information with respect to the Margin Fund is to be found in the Risk Manual, Schedule A of this Operations Manual.



Risk Manual

Glossary

Margin Interval: Parameter established by the Corporation which reflects the maximum price fluctuation that the Underlying Interest could be expected to have during the liquidation period. The Margin Interval (MI) calculations are based on the historical volatility of the Underlying Interest and these calculations are re-evaluated on a regular basis. If necessary, the Corporation may update the Margin Intervals more frequently. The Margin Interval is used to calculate the Initial Margin of every Derivative Instrument.

Haircut: Percentage discounted from the market value of Securities pledged as collateral for Margin Deposit. The discount reflects the price movement volatility of the collateral pledged. Thus, this reduction assures that even if the collateral's market value declines, there is time to call for additional collateral to adjust its value to the required level.

Initial Margin: The Initial Margin covers the potential losses that may occur over the next liquidation period as a result of market fluctuations. The Initial Margin amount is calculated using the historical volatility of the Underlying Interest return for Options contracts, futures prices for Futures contracts and yield-to-maturity (YTM) of the on-the-run security for Fixed Income Transactions.

Variation Margin: The Variation Margin takes into account the portfolio's liquidating value (this is also known as the Replacement Cost or RC) which is managed through the Mark-to-Market daily process.

Price Scan Range: The maximum price movement reasonably likely to occur, for each Derivative Instrument or, for Options, their Underlying Interest. The term PSR is used by the Risk Engine to represent the potential variation of the product value and it is calculated through the following formula:

$$\text{PSR} = \text{Underlying Interest Price} \times \text{MI} \times \text{Contract Size}$$

Volatility Scan Range: The maximum change reasonably likely to occur for the volatility of each Option's Underlying Interest price.

Risk Array: A Risk Array (RA) is a set of 16 scenarios defined for a particular contract specifying how a hypothetical single position will lose or gain value if the corresponding risk scenario occurs from the current situation to the near future (usually next day).

Combined Commodity: The Risk Engine divides the positions in each portfolio into groupings called Combined Commodities. Each Combined Commodity represents all positions on the same ultimate Underlying Interest – for example, all Futures contracts and all Options contracts ultimately related to the S&P/TSX 60 Index.

Scanning Risk: The Risk Engine chooses the difference between the current market value of an Underlying Interest and its most unfavourable projected liquidation value obtained by varying the values of the Underlying Interest according to several scenarios representing adverse changes in normal market conditions.

Active Scenario: The number of the Risk Arrays scenario that gives the largest amount (worst case scenario).

Short Option Minimum: Rates and rules to provide coverage for the special situations associated with portfolios of deep out-of-the-money short option positions. This amount will be called if it is higher than the result of the Risk Arrays.

Liquidity Interval: The Liquidity Interval is calculated based on the historical bid-ask price spread of the Underlying Interest according to the same formula for Margin Interval.

Buckets: All Acceptable Securities of Fixed Income Transactions that behave in a similar manner are grouped together into “Buckets” and each Bucket behaves as a Combined Commodity. Acceptable Securities are bucketed according to their remaining time to maturity and issuer. Due to the nature of the bucketing process, the Acceptable Securities’ assignment will be dynamic in that they will change from one Bucket to the other as the Acceptable Security nears maturity.

MTM Price Valuation: The MTM Price Valuation is the difference between the market value of the Security and the funds borrowed. This amount is collateralized and should be credited (or debited) to the Repo Party’s Margin Fund and debited (or credited) to the Reverse Repo Party’s Margin Fund.

Intra-Commodity (Inter-Month) Spread Charge: Underlying Interests’ prices, from a maturity month to another are not perfectly correlated. Gains on a maturity month should not totally offset losses on another. To fix this issue, the Risk Engine allows the user to calculate and to apply a margin charge relative to the Inter-Month spread risk in order to cover the risk of these two positions.

Inter-Commodity Spread Charge: The Corporation considers the correlation that exists between different classes of Futures contracts when calculating the Initial Margin. For example, different interest rate Futures contracts are likely to react to the same market indicators, but at different degrees. For instance, a portfolio composed of a long position and a short position on two different interest rate Futures contracts will be likely less risky than the sum of the two positions taken individually.

Clearing Engine: The Corporation uses SOLA® Clearing as its Clearing Engine.

Risk Engine: The Corporation uses the Standard Portfolio Analysis system (SPAN®) as its Risk Engine.

Intra-day Variation Margin Risk: The Corporation considers this risk as the intra-day risk arising in circumstances in which market volatility or surges in trading volumes produce unusually large Variation Margin exposures.

The terms and concepts herein defined, as used in this Risk Manual, are derived from the CME Group proprietary SPAN® margin system, adapted for CDCC’s licensed use thereof.

ACCOUNT STRUCTURE

The Corporation uses three types of accounts for Margin calculation purposes and positions management: Firm Account, Multi-Purpose Account and Client Account. All the account types are treated on a net account basis for Futures contracts, OTCI and Fixed Income Transactions. However, Options contracts are treated differently depending on the account type they are held in. If they are held in a Firm Account or a Multi-Purpose Account, they are treated on a net account basis, whereas if they are held in a Client Account, they are treated on a gross account basis, which means that only short Options contracts are considered when computing the Initial Margin.

Gross accounts allow calculation of Initial Margin for different clients that clear through one Clearing Member. Since each client has its own risk profile, the Initial Margin must be computed separately for each client and must not allow offsets between positions that belong to different clients. Subsequently, only Short Positions in Options contracts are considered when calculating the Initial Margins for the Client Account.

Net accounts allow calculation of Initial Margin for the Clearing Member's own positions (Firm Account), for a Market Maker positions (Market Maker Account) or for the positions of a particular single Client (Netted Client Account). In this case, the Initial Margin must consider the possible offsets between all positions. Therefore, all positions held in one Firm Account or one Multi-Purpose Account are used to calculate the Initial Margin for this account.

The Initial Margins calculated for each account are then aggregated at the Clearing Member level to get the Initial Margin by Clearing Member.

In order to cover the Initial Margin described above, Clearing Members shall deposit an acceptable form of Deposits in accordance with Section A-709 of the Rules.

Additional Margin for Intra-Day Variation Margin Risk

In order to address the Intra-Day Variation Margin Risk¹, CDCC makes additional margin calls vis-à-vis each Clearing Member if it determines that it's intra-day exposure to the Clearing Member exceeds a certain limit (threshold in percentage) in relation to their respective Initial Margin or their Clearing Fund contribution. Margin calls are subject to a minimum value (floor). Thereby, CDCC will compare the Clearing Member's Intra-Day Variation Margin amount to its Initial Margin and its Clearing Fund contribution on a daily basis and requires, if necessary, additional margin calls. Additional calls for Intra-Day Variation Margin Risk could also be used in any other circumstances that CDCC deems appropriate.

¹ This margin is applying only on Futures contracts.

DIFFERENCE FUND

As defined in Section 8.2 of the Operations Manual, the Difference Fund is Margin Deposits held by the Corporation as discretionary margin, such as: (1) Unsettled Items Margin, (2) Daily Capital Margin Monitoring, (3) Advance calls for settlement of losses, (4) OTCI Additional Margin, ~~and~~ (5) Intra-Day Margin, and (6) Additional Margin for Intra-Day Variation Margin Risk. The Corporation accepts Deposits to the Difference Fund in the same form and proportion as for the Margin Fund, as set forth in Section A-709 of the Rules.

Despite the fact that the Difference Fund is used to cover all the above elements, the sub-section regarding the Daily Capital Margin Monitoring intends to capture the credit risk. Consequently, this sub-section is described in details thereunder.

Daily Capital Margin Monitoring:

The Corporation measures the credit exposure to its Clearing Members on a daily basis through the Daily Capital Margin Monitoring Calls (the Difference Fund). The capital level is derived from regulatory reports received on a monthly basis in a timely manner (and on a quarterly basis if it is a Bank Clearing Member).

As prescribed in Section A-710 of the Rules, the Corporation may call for a contribution in the Difference Fund from Members that are undercapitalized in relation to their respective Initial Margin. The Corporation compares the Clearing Member's capital amount to the Initial Margin on a daily basis and requires, if applicable, that the Clearing Member makes up any difference in the form of acceptable Deposits. Each Clearing Member's capital is analyzed and updated on a monthly basis.

In order to determine the contribution to the Difference Fund of Clearing Members, the Corporation uses the Net Allowable Assets (NAA). The Net Allowable Asset is a more restrictive type of capital, since it is the net result of the financial statement capital less the non allowable assets. Non allowable assets are composed of less liquid assets like capitalized leases, Investments in and Advances to Subsidiaries, etc. For Bank Clearing Members, the Corporation uses the Net Tier 1 capital.

The Corporation has access to the Clearing Member's financial statements from the CIPF (Canadian Investor Protection Fund), and the OSFI (Office of the Superintendent of Financial Institutions Canada) for Bank Clearing Members.

In addition to the monthly update of capital numbers, the Corporation performs a qualitative analysis of the financial statements of each member. The Corporation has defined specific thresholds to analyze the profitability, the margin required, the liquidity and the capital level. The Corporation could ask Clearing Members for more clarifications, if necessary.

Indeed, Investment Industry Regulatory Organization of Canada (IIROC) evaluates the financial condition of its Members. If an IIROC Member, who is also a Clearing Member, fails the tests designed to detect the risk of insolvency, the Corporation will be notified by IIROC. The Clearing Member itself shall also advise the Corporation immediately if it enters in an early warning level situation. IIROC may issue two types of warning, early warning level 1 or 2. This is function of the severity of the financial

deficiency. The Corporation will be informed by IIROC and will closely monitor the situation. IIROC may impose sanctions or restrictions against the Member. The Corporation will judge if it necessary to take any additional actions and will report the situation to the Risk Management and Advisory Committee (RMAC).