



NOTICE TO MEMBERS

No. 2019 - 111

November 1, 2019

REQUEST FOR COMMENTS

AMENDMENTS TO THE RULES, OPERATIONS MANUAL AND RISK MANUAL OF THE CANADIAN DERIVATIVES CLEARING CORPORATION WITH RESPECT TO LIQUIDITY RISK MANAGEMENT

On October 31, 2019, the Board of Directors of Canadian Derivatives Clearing Corporation ("CDCC") approved certain amendments to the Rules, Operations Manual and Risk Manual of CDCC that are intended to enhance CDCC's observance of Principle 7 of the CPMI-IOSCO Principles For Financial Market Infrastructures ("PFMIs"). By the proposed changes, CDCC will require Clearing Members to satisfy their contributions to CDCC's Clearing Fund by using only one form of acceptable eligible collateral: money in Canadian dollars.

Please find enclosed an analysis document as well as the proposed amendments.

Process for Changes to the Rules

CDCC is recognized as a clearing house under section 12 of the *Derivatives Act* (Québec) by the Autorité des marchés financiers ("AMF") and as a recognized clearing agency under section 21.2 of the *Securities Act* (Ontario) by the Ontario Securities Commission ("OSC").

The Board of Directors of CDCC has the power to approve the adoption or amendments of the Rules, the Operations Manual and the Risk Manual of CDCC. Amendments are submitted to the AMF in accordance with the self-certification process and to the OSC in accordance with the process provided in the Recognition Order.

Comments on the proposed amendments must be submitted on or before **December 2nd, 2019**. Please submit your comments to:

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Canadian Derivatives Clearing Corporation
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Email: legal@tmx.com

A copy of these comments shall also be forwarded to the AMF and to the OSC to:

M^e Philippe Lebel
Corporate Secretary and
Executive Director, Legal Affairs
Autorité des marchés financiers
Place de la Cité, tour Cominar
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For any question or clarification, Clearing Members may contact Martin Jannelle at 514-787-6578 or at martin.jannelle@tmx.com.

Jay Rajarathinam
President



**AMENDMENTS TO THE RULES, OPERATIONS MANUAL AND RISK MANUAL OF CANADIAN
DERIVATIVES CLEARING CORPORATION WITH RESPECT TO LIQUIDITY RISK MANAGEMENT**

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I. DESCRIPTION

The Canadian Derivatives Clearing Corporation (“CDCC”) is proposing changes to its Rules, Operations Manual and Risk Manual that are intended to enhance CDCC’s observance of the CPMI-IOSCO Principles For Financial Market Infrastructures (“PFMIs”) (more particularly Principle 7), as required under National Instrument 24-102 (Clearing Agency Requirements) and related Companion Policy 24-102CP, and CDCC’s recognition orders issued by the provincial regulators.

By the proposed changes, CDCC will require Clearing Members to satisfy their contributions to CDCC’s Clearing Fund by using only one form of acceptable eligible collateral: money in Canadian dollars.

With these proposed changes, CDCC will be able to enhance its compliance to the Cover 1 standard for liquidity risk. CDCC is also of the view that the proposed changes will solidify CDCC’s liquidity risk practices that are required to manage the Clearing Members’ liquidity risks. The proposed changes strengthen the operational tools that help CDCC identify, monitor and measure the liquidity risks as part of its activities.

II. PROPOSED AMENDMENTS

CDCC wishes to improve its compliance to PFMI standards (Principle 7) and its risk management practices. In addition to the current available qualifying resources, CDCC’s Clearing Members will be requested to satisfy their contributions to the Clearing Fund by delivering money in Canadian dollars only.

Accessory changes to the timing of delivery of the Clearing Fund’s requirements are also proposed. These changes will allow CDCC to monitor more closely the deposit of cash from Clearing Members to CDCC’s bank accounts. CDCC will now require the Clearing Members to deliver the Clearing Fund’s requirements on the next business day following the notice of such requirements (T+1), before 10 a.m. No same-day deposit will be accepted by CDCC.

All proposed changes to CDCC’s Rules, Operations Manual and Risk Manual are provided in Appendix “A” to this analysis.

III. ANALYSIS

a. Background

Principle 7 of the PFMIs (originally published in April, 2012) states that an “FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multi-day settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.”

A clarifying guidance published in 2017 following a CPMI-IOSCO report uncovered that many FMIs had not made sufficient progress. The clarifying guidance further refined the expectations on how

the overall liquidity exposure should be measured and the characteristics of the qualifying liquid resources.

Based on the foregoing, CDCC has decided to amend its Rules, Operations Manual and Risk Manual in order to comply with PFMI Standards (Principle 7) and adapt its liquidity risk management practices in order to have access to ready-available cash instead of securities.

b. Objectives

By the proposed changes, CDCC will ensure that it has access to sufficient qualifying liquid resources in Canadian dollars in order to meet payment and settlement obligations as they fall due, covering at the same time both operational and default management activity. For CDCC, a significant source of qualifying liquid resource is anticipated to be generated from cash collateral provided to the Clearing Fund. Except for this change (cash as the sole eligible collateral to the Clearing Fund), the other internal procedures and processes including, without limitation, stress testing and reverse testing will remain applicable to CDCC's current liquidity management practices.

In considering the proposed changes to the Rules and Manuals, and the underlying change to CDCC's risk management practices, CDCC has reviewed whether it could rely on additional lines of credit. CDCC also reviewed and identified the impediments of having highly marketable collateral that could still not be quickly converted into cash in short notice. CDCC finally determined that it would require the Clearing Members to provide money in Canadian dollars in the Clearing Fund. These additional qualifying liquidity resources, in the form of ready-available cash, will be coupled with CDCC's existing credit facilities to meet its requirements under the PFMI standards.

c. Comparative Analysis

Major central counterparties have made extensive work and progress in meeting Principle 7 PMFIs.

The Options Clearing Corporation has maintained and renewed a \$2 billion committed credit facility from a consortium of banks lately, while reducing clearing member participation in such facilities to reduce concentration risk. The organization also enhanced the availability of pre-funded financial resources by requiring a minimum of \$3 billion in cash in its clearing fund, which is held at the Chicago Federal Reserve Bank. The OCC also became the first and only systemically important clearing house to add a new \$1 billion non-bank committed credit facility with a large U.S. pension fund.

The National Securities Clearing Corporation and the LCH both have similar rules or framework to the one proposed by CDCC (request for liquidity deposits and cash to their respective default/clearing fund).

d. Analysis of Impacts

i.Impacts on Market

CDCC understands that financing cash may involve different costs than those incurred by financing securities and therefore, some Clearing Members may see some impacts in their cost of borrowing, or they may be faced with an opportunity cost. With the aim of reducing the additional cost to Clearing Members associated with this situation, CDCC is evaluating the possibility of receiving compensation on cash balances and therefore, to compensate the Clearing Members based on the cash provided. Discussions are in progress with the relevant regulators.

ii.Impacts on Technology

Except for a few configuration changes, which will not require any material work from CDCC, the proposed rule amendments are not expected to have an impact on CDCC's technological systems, or require any changes to the systems of the Clearing Members or other market participants.

iii.Impacts on trading functions

The proposed changes will not result in any impact on Bourse de Montréal's trading functions.

iv.Public Interest

CDCC believes that the proposed rule amendments are not contrary to the public interest.

IV. PROCESS

The proposed amendments are to be submitted for approval to CDCC Board of Directors. After Board approval has been obtained, the proposed amendments, including this analysis, will be transmitted to the Autorité des marchés financiers in accordance with the self-certification process, and to the Ontario Securities Commission in accordance with the "Rule Change Requiring Approval in Ontario" process. The proposed amendments and analysis will also be submitted for approval to the Bank of Canada in accordance with the Regulatory Oversight Agreement.

The proposed changes to CDCC's Rules, Operations Manual and Risk Manual are expected to become effective on a date to be determined by CDCC (such date expected to be in Q1 2020).

V. ATTACHED DOCUMENTS

- Appendix "A": amended Rules, Operations Manual and Risk Manual.



CANADIAN DERIVATIVES CLEARING CORPORATION

RULES

~~AUGUST 15, 2019~~

PART A – GENERAL

[...]

RULE A-4 ENFORCEMENT

[...]

SECTION A-402 CREATION OF LIQUIDATING SETTLEMENT ACCOUNT

- (1) Upon the suspension of a Clearing Member, the Corporation may convert to cash all Margin Deposits with the Corporation by such Clearing Member in all accounts (including Securities held in bulk deposit but excluding Securities held in specific deposit) ~~including all of such Clearing Member's contributions to Clearing Funds~~. For purposes of making any such conversion to cash of Margin Deposits, the Corporation may sell, transfer, use or otherwise deal or dispose of any property deposited as Margin Deposit at any time, without prior notice to such Clearing Member. These and all other funds of the suspended Clearing Member subject to the control of the Corporation shall be placed by the Corporation in a special account, to be known as the Liquidating Settlement Account, for the purposes hereinafter specified.
- (2) Notwithstanding the provisions of Subsection A-402(1), if the Corporation shall determine in its sole discretion, taking into account the size and nature of a suspended Clearing Member's Margin Deposits, the market condition prevailing at the time, the potential market effects of liquidating transactions that might be directed by the Corporation, and such other circumstances that the Corporation deems relevant, that the conversion to cash of some or all of the suspended Clearing Member's Margin Deposits would not be in the best interest of the Corporation, other Clearing Members or the general public, such deposits need not be converted to cash, provided that any determination made pursuant to this Subsection shall be reported to the Board within 24 hours.
- (3) Notwithstanding the provisions of Subsection A-402(1) and Subsection A-402(2), Margin Deposits with respect to a Client Account shall only secure the performance by the Clearing Member of its obligations in respect of that Client Account, and Margin Deposits with respect to a Market Maker Account shall only secure the performance by the Clearing Member of its obligations in respect of that Market Maker Account; provided, however, that if the Clearing Member does not identify its Deposits with respect to each of its accounts, the Corporation shall use Margin Deposits without distinction as securing all the obligations of the Clearing Member in respect of all its accounts.

[...]

RULE A-6 CLEARING FUND DEPOSITS

SECTION A-601 CLEARING FUND MAINTENANCE AND PURPOSE

- (1) The Corporation shall establish a Clearing Fund relating to all Transactions cleared by the Corporation. Each Clearing Member, except Limited Clearing Members, admitted to clear Transactions at the Corporation shall maintain a deposit in the Clearing Fund of the amounts from time to time required by the Rules. The Clearing Fund shall be used for the purposes set out in Section A-609 and Subsection A-701(2).
- (2) The Clearing Fund Base Deposits are as follows:

(a) Options Clearing Base Deposit	• \$25,000 Cash or equivalent value (as set out in Section A-608) of Acceptable Treasury Bills.
(b) Futures Clearing Base Deposit	• \$75,000 Cash or equivalent value (as set out in Section A-608) of Acceptable Treasury Bills.
(c) OTCI Clearing Base Deposit (other than Fixed Income Transactions)	• \$100,000 Cash or equivalent value (as set out in Section A-608) of Acceptable Treasury Bills.
(d) Fixed Income Transactions Clearing Base Deposit	• \$1,000,000 Cash or equivalent value (as set out in Section A-608) of Acceptable Treasury Bills.
- (3) This Rule A-6 is not applicable to Limited Clearing Members.

SECTION A-602 AMOUNT OF CLEARING FUNDS

The Clearing Fund is constituted of the aggregate amount of the Clearing Fund deposits required by each Clearing Member at the close of each calendar month as Base Deposit and Variable Deposit. The amount required to be deposited by each Clearing Member to the Clearing Fund shall be calculated according to Section A-603. Unless otherwise specified, the Clearing Fund shall not include any deposit made in excess of the amount of the Clearing Fund deposits required by each Clearing Member.

SECTION A-603 AMOUNT OF DEPOSIT

- (1) The required deposit of each Clearing Member to the Clearing Fund shall be an amount equal to the total of:
 - (a) an Options Clearing Base Deposit, if the Clearing Member has been accepted to clear Options;

- (b) a Futures Clearing Base Deposit, if the Clearing Member has been accepted to clear Futures;
 - (c) an OTCI Clearing Base Deposit, if the Clearing Member has been accepted to clear OTCI transactions other than Fixed Income Transactions;
 - (d) a Fixed Income Transactions Clearing Base Deposit, if the Clearing Member has been accepted to clear Fixed Income Transactions; and
 - (e) a Variable Deposit equal to the amount by which (i) the Clearing Member's contribution, in accordance with the methodology set out in the Risk Manual, to the Corporation's Uncovered Residual Risk exceeds (ii) such Clearing Member's Base Deposits.
- (2) Within a calendar month, if the Corporation determines that an increase to the Variable Deposit is necessary to protect its financial integrity, the Corporation will notify with a Clearing Fund statement the concerned Clearing Member(s) which shall increase in the determined amount and approved form its contribution to the Clearing Fund. The contribution to the Clearing Fund by the concerned Clearing Member(s) must be received by the Corporation on the following Business Day (T+1) by 10 a.m. (no same-day contribution). ~~no later than 2:00 p.m. on the following Business Day.~~

SECTION A-604 CHANGES IN REQUIREMENT

The amount of Base and Variable Deposits required to be made by Clearing Members may be modified from time to time by the Corporation. If the deposit to the Clearing Fund required to be made by a Clearing Member is thereby increased, the increase shall not become effective until the Clearing Member is given three Business Days' prior written notice of such modification. Unless a Clearing Member notifies the Corporation in writing that it wishes to withdraw its membership and closes out or transfers all of its aggregate positions in the relevant instrument before the effective date of such amendment, such Clearing Member shall be liable to make the increased deposit.

SECTION A-605 CLEARING FUND STATEMENT

On the first Business Day of each calendar month, the Corporation shall issue to each Clearing Member a Clearing Fund statement that shall list the current amount of such Clearing Member's deposits to the Clearing Fund and the amount of deposit required of such Clearing Member. Any surplus over and above the amount required or any deficit to be satisfied will also be shown. A Clearing Fund statement will also be issued intra-monthly if an increase to the Variable Deposit is necessary. The concerned Clearing Member will have until no later than ~~210:00~~ 210:00 a.m. on the next Business Day to remediate any deficit. The contribution required by the Clearing Member to satisfy any deficit must be received by the Corporation on the following Business Day (T+1) by 10 a.m. (no same-day contribution).

SECTION A-606 ADDITIONAL CLEARING FUND DEPOSIT

Whenever a Clearing Member's Clearing Fund statement shows a deficit, such Clearing Member shall satisfy the deficit by a deposit ~~to the Corporation in a form approved by the Corporation no later than 102:00 a.m. on the Business Day following the issuance of the Clearing Fund statement, on the Business Day (T+1) following the issuance of the Clearing Fund statement, by 10 a.m. (no same-day contribution).~~

SECTION A-607 WITHDRAWALS

In the event that the Clearing Fund statement of a Clearing Member shows a surplus, the Clearing Member may request the withdrawal of such surplus by submitting a withdrawal request in the form and time prescribed by the Corporation.

SECTION A-608 FORM OF DEPOSITS

- (1) In addition to Base Deposits made pursuant to the requirements of Subsection A-601(2), Variable Deposits to the Clearing Fund shall also be in the form of Cash ~~and/or in Acceptable Treasury Bills valued at a discounted rate, as determined by the Corporation from time to time in accordance with the methodology set out in the Risk Manual, of their market value; if no market value is generally available for such Acceptable Treasury Bills, they shall be valued at an amount determined by the Corporation. Substitutions may be made with the prior approval of the Corporation.~~ Deposits in Cash shall be transferred by irrevocable funds transfer to the Corporation and may, from time to time, be partially or wholly invested by the Corporation for its account. To the extent not so invested, they shall be deposited to the credit of the Corporation in such financial institutions as the Board may select. Deposits in Cash shall not be used by the Corporation as working capital but any interest or gain received or accrued on the investment of such funds shall belong to the Corporation.
- (2) Any Clearing Fund deposit shall be deemed to be deposited with the Corporation at the time the Corporation accepts the Cash ~~and/or Acceptable Treasury Bills. All interest or gain received or accrued on any Acceptable Treasury Bills, prior to any sale, negotiation or pledge thereof, shall belong to the depositing Clearing Member.~~

SECTION A-609 APPLICATION OF CLEARING FUND

- (1) The Corporation shall apply a suspended Clearing Member's Margin Deposit (including, without limitation, deposits required or made as Margin and Clearing Fund deposits), as well as the Clearing Fund deposits required of all other Clearing Members in accordance with Subsection A-609(2), as set out in Subsection A-701(2) and in accordance with the methodology set out in the Default Manual.

- (2) If the amount of the obligations, losses or expenses incurred or sustained by the Corporation in connection with the suspension of a Clearing Member exceeds the total amount of the suspended Clearing Member's Margin Deposit (including, without limitation, deposits required or made as Margin and Clearing Fund), and if such Clearing Member fails to pay the Corporation the amount of the deficiency on demand, the Corporation shall apply its own capital resources specifically set aside for such purpose up to the maximum amount set out in the Default Manual for a single Default Management Period, and if the amount of the deficiency exceeds such amount, the remaining deficiency shall be paid out of the Clearing Fund and charged based on the bidding behaviour of each Clearing Member in good standing in the course of the auction conducted in the course of the Default Management Period ("**Default Auction**") but, subject to and in accordance with the methodology set out in the Default Manual. In the event no Default Auction is conducted in the course of the Default Management Period, any deficiency shall be charged to the Clearing Members other than the suspended Clearing Member(s), *pro rata*, based on the quotient obtained by dividing the amount of such Clearing Member's Clearing Fund deposit required at the beginning of the Default Management Period by the aggregate amount of Clearing Fund deposits required at the beginning of the Default Management Period by all Clearing Members other than the suspended Clearing Member(s). Notwithstanding any such charges made against the Clearing Fund deposits of each of the Clearing Members, the suspended Clearing Member which failed to pay the deficiency shall remain liable to the Corporation for the full amount of such deficiency until its repayment.
- (3) Whenever any such charges are made against Clearing Members' deposits to the Clearing Fund, the Corporation shall promptly notify each Clearing Member of the amount of the charge and the reasons therefor. For the purposes of this Section A-609, the amount of any claim of the Corporation for deficiencies against a Clearing Member shall be determined without reference to the possibility of any subsequent recovery in respect thereof, through insolvency proceedings or otherwise, but the net amount of any such recovery shall be applied in accordance with Section A-612.
- (4) Without limiting the rights of the parties under Section A-607 and Subsections A-609(1) and (2), at the sole discretion of the Corporation, all ~~Cashproperty~~ deposited with the Corporation as a Clearing Fund deposit by any and all Clearing Members may be pledged, repledged, hypothecated, rehypothecated or transferred by the Corporation as security for, or in connection with, the Corporation's own obligations to any person incurred in order (a) to obtain liquidity or credit for the purpose of assisting the Corporation to honour its obligations on a timely basis further to the designation by the Corporation of a Clearing Member as being a Non-Conforming Member, or (b) to fund a payment obligation of the Corporation which arises pursuant to a Failed Delivery under Subsection A-804(1) by any Clearing Member, and any such security or transfer will be effective without the holder or recipient thereof being required to make any enquiry as to whether the applicable obligations have been incurred for the purposes set out in this Subsection A-609(4) or whether the funds so obtained are being used for such purposes. Without limiting the rights of the Corporation under Subsection A-701(2), at the sole discretion of the Corporation, in the case of the situation described in (a) above, the Corporation shall pledge the Non-Conforming Member's Margin Deposits (including, without limitation, Margin and Clearing Fund), in accordance with Subsection A-701(5), before pledging the Clearing Fund deposits of other Clearing Members. In the case of the situation described in (b) above, the Corporation shall pledge the Clearing Fund deposits of the Provider of Securities responsible for the Failed Delivery before pledging the Clearing Fund deposits of other Clearing Members. The Corporation shall be deemed to continue to hold all ~~Cashproperty~~ deposited with the Corporation as Clearing Fund deposits, regardless of whether the Corporation has exercised its rights under this Subsection A-609(4).

- (5) Without limiting the rights of the Corporation under Subsections A-609(1) and A-609(4), during a single Default Management Period, the Corporation shall not, with respect to each Clearing Member that has not been suspended, apply more than 200% of the Clearing Fund deposit required by such Clearing Member as of the date of the commencement of the Default Management Period to satisfy or otherwise settle any obligations, losses or expenses incurred or sustained by the Corporation in connection with the suspension(s) of Clearing Member(s).

SECTION A-610

MAKING GOOD ON CHARGES TO CLEARING FUND

Whenever an amount is paid out of the Clearing Fund deposits of the Clearing Members that have not been suspended, in accordance with Subsection A-609(2), such Clearing Members shall be liable to make good the deficiency if any in their deposits resulting from such payment ~~no later than 2:00 p.m.~~ on the Business Day following the date that the amount is paid out ~~(T+1), by 10 a.m. (no same-day contribution),~~ unless the Corporation issues a notice specifying a later date. Notwithstanding the foregoing, Clearing Members will not be liable to make good during a single Default Management Period more than an additional 200% of the amount of their Clearing Fund deposits required at the beginning of the Default Management Period as prescribed by the Rules.

SECTION A-611

DEPOSIT REFUND

- (1) Whenever a Clearing Member ceases to be a Clearing Member in accordance with Section A-1A09, the amount of its Clearing Fund deposit shall be returned, subject to the time limit specified in Subsection A-611(2). All outstanding amounts chargeable against a Clearing Member's deposit in connection with its activities while a Clearing Member, shall be deducted from the amount to be returned.
- (2) Thirty days after a Clearing Member has ceased to be a member of the Corporation in accordance with Section A-1A09, the Corporation shall authorize such former member to withdraw its Clearing Fund deposit.

SECTION A-612

RECOVERY OF LOSS

- (1) Subject to Section A-1013, if an amount charged against the deposits of Clearing Members in the Clearing Fund is subsequently recovered by the Corporation from the Clearing Member whose failure to pay led to the amount being charged, in whole or in part, the net amount of such recovery shall be paid or credited to the Clearing Members against whose deposit the loss was charged in proportion to the amount charged against their respective deposits, whether or not they remain Clearing Members.
- (2) Any Clearing Member that has had an amount charged against its deposit under Subsection A-609(2), shall have the right to claim from the Clearing Member whose failure to pay a deficiency led to the amount being charged and the Clearing Member shall be obliged to reimburse such other



Clearing Member the amount so charged against the Clearing Member's deposit to the extent that such amount has not been recovered by the Corporation pursuant to Subsection A-612(1).

[...]



CANADIAN DERIVATIVES CLEARING CORPORATION
RULES

PART A – GENERAL

[...]

RULE A-4 ENFORCEMENT

[...]

SECTION A-402 CREATION OF LIQUIDATING SETTLEMENT ACCOUNT

- (1) Upon the suspension of a Clearing Member, the Corporation may convert to cash all Margin Deposits with the Corporation by such Clearing Member in all accounts (including Securities held in bulk deposit but excluding Securities held in specific deposit). For purposes of making any such conversion to cash of Margin Deposits, the Corporation may sell, transfer, use or otherwise deal or dispose of any property deposited as Margin Deposit at any time, without prior notice to such Clearing Member. These and all other funds of the suspended Clearing Member subject to the control of the Corporation shall be placed by the Corporation in a special account, to be known as the Liquidating Settlement Account, for the purposes hereinafter specified.
- (2) Notwithstanding the provisions of Subsection A-402(1), if the Corporation shall determine in its sole discretion, taking into account the size and nature of a suspended Clearing Member's Margin Deposits, the market condition prevailing at the time, the potential market effects of liquidating transactions that might be directed by the Corporation, and such other circumstances that the Corporation deems relevant, that the conversion to cash of some or all of the suspended Clearing Member's Margin Deposits would not be in the best interest of the Corporation, other Clearing Members or the general public, such deposits need not be converted to cash, provided that any determination made pursuant to this Subsection shall be reported to the Board within 24 hours.
- (3) Notwithstanding the provisions of Subsection A-402(1) and Subsection A-402(2), Margin Deposits with respect to a Client Account shall only secure the performance by the Clearing Member of its obligations in respect of that Client Account, and Margin Deposits with respect to a Market Maker Account shall only secure the performance by the Clearing Member of its obligations in respect of that Market Maker Account; provided, however, that if the Clearing Member does not identify its Deposits with respect to each of its accounts, the Corporation shall use Margin Deposits without distinction as securing all the obligations of the Clearing Member in respect of all its accounts.

[...]

RULE A-6 CLEARING FUND DEPOSITS

SECTION A-601 CLEARING FUND MAINTENANCE AND PURPOSE

- (1) The Corporation shall establish a Clearing Fund relating to all Transactions cleared by the Corporation. Each Clearing Member, except Limited Clearing Members, admitted to clear Transactions at the Corporation shall maintain a deposit in the Clearing Fund of the amounts from time to time required by the Rules. The Clearing Fund shall be used for the purposes set out in Section A-609 and Subsection A-701(2).
- (2) The Clearing Fund Base Deposits are as follows:
 - (a) Options Clearing Base Deposit • \$25,000 Cash.
 - (b) Futures Clearing Base Deposit • \$75,000 Cash.
 - (c) OTCI Clearing Base Deposit (other than Fixed Income Transactions) • \$100,000 Cash.
 - (d) Fixed Income Transactions Clearing Base Deposit • \$1,000,000 Cash.
- (3) This Rule A-6 is not applicable to Limited Clearing Members.

SECTION A-602 AMOUNT OF CLEARING FUNDS

The Clearing Fund is constituted of the aggregate amount of the Clearing Fund deposits required by each Clearing Member at the close of each calendar month as Base Deposit and Variable Deposit. The amount required to be deposited by each Clearing Member to the Clearing Fund shall be calculated according to Section A-603. Unless otherwise specified, the Clearing Fund shall not include any deposit made in excess of the amount of the Clearing Fund deposits required by each Clearing Member.

SECTION A-603 AMOUNT OF DEPOSIT

- (1) The required deposit of each Clearing Member to the Clearing Fund shall be an amount equal to the total of:
 - (a) an Options Clearing Base Deposit, if the Clearing Member has been accepted to clear Options;
 - (b) a Futures Clearing Base Deposit, if the Clearing Member has been accepted to clear Futures;

- (c) an OTCI Clearing Base Deposit, if the Clearing Member has been accepted to clear OTCI transactions other than Fixed Income Transactions;
 - (d) a Fixed Income Transactions Clearing Base Deposit, if the Clearing Member has been accepted to clear Fixed Income Transactions; and
 - (e) a Variable Deposit equal to the amount by which (i) the Clearing Member's contribution, in accordance with the methodology set out in the Risk Manual, to the Corporation's Uncovered Residual Risk exceeds (ii) such Clearing Member's Base Deposits.
- (2) Within a calendar month, if the Corporation determines that an increase to the Variable Deposit is necessary to protect its financial integrity, the Corporation will notify with a Clearing Fund statement the concerned Clearing Member(s) which shall increase in the determined amount and approved form its contribution to the Clearing Fund. The contribution to the Clearing Fund by the concerned Clearing Member(s) must be received by the Corporation on the following Business Day (T+1) by 10 a.m. (no same-day contribution).

SECTION A-604 **CHANGES IN REQUIREMENT**

The amount of Base and Variable Deposits required to be made by Clearing Members may be modified from time to time by the Corporation. If the deposit to the Clearing Fund required to be made by a Clearing Member is thereby increased, the increase shall not become effective until the Clearing Member is given three Business Days' prior written notice of such modification. Unless a Clearing Member notifies the Corporation in writing that it wishes to withdraw its membership and closes out or transfers all of its aggregate positions in the relevant instrument before the effective date of such amendment, such Clearing Member shall be liable to make the increased deposit.

SECTION A-605 **CLEARING FUND STATEMENT**

On the first Business Day of each calendar month, the Corporation shall issue to each Clearing Member a Clearing Fund statement that shall list the current amount of such Clearing Member's deposits to the Clearing Fund and the amount of deposit required of such Clearing Member. Any surplus over and above the amount required or any deficit to be satisfied will also be shown. A Clearing Fund statement will also be issued intra-monthly if an increase to the Variable Deposit is necessary. The concerned Clearing Member will have until no later than 10:00 a.m. on the next Business Day to remediate any deficit. The contribution required by the Clearing Member to satisfy any deficit must be received by the Corporation on the following Business Day (T+1) by 10 a.m. (no same-day contribution).

SECTION A-606 **ADDITIONAL CLEARING FUND DEPOSIT**

Whenever a Clearing Member's Clearing Fund statement shows a deficit, such Clearing Member shall satisfy the deficit by a deposit to the Corporation on the Business Day (T+1) following the issuance of the Clearing Fund statement, by 10 a.m. (no same-day contribution).

SECTION A-607

WITHDRAWALS

In the event that the Clearing Fund statement of a Clearing Member shows a surplus, the Clearing Member may request the withdrawal of such surplus by submitting a withdrawal request in the form and time prescribed by the Corporation.

SECTION A-608

FORM OF DEPOSITS

- (1) In addition to Base Deposits made pursuant to the requirements of Subsection A-601(2), Variable Deposits to the Clearing Fund shall also be in the form of Cash Deposits in Cash shall be transferred by irrevocable funds transfer to the Corporation and may, from time to time, be partially or wholly invested by the Corporation for its account. To the extent not so invested, they shall be deposited to the credit of the Corporation in such financial institutions as the Board may select. Deposits in Cash shall not be used by the Corporation as working capital but any interest or gain received or accrued on the investment of such funds shall belong to the Corporation.
- (2) Any Clearing Fund deposit shall be deemed to be deposited with the Corporation at the time the Corporation accepts the Cash.

SECTION A-609

APPLICATION OF CLEARING FUND

- (1) The Corporation shall apply a suspended Clearing Member's Margin Deposit (including, without limitation, deposits required or made as Margin and Clearing Fund deposits), as well as the Clearing Fund deposits required of all other Clearing Members in accordance with Subsection A-609(2), as set out in Subsection A-701(2) and in accordance with the methodology set out in the Default Manual.
- (2) If the amount of the obligations, losses or expenses incurred or sustained by the Corporation in connection with the suspension of a Clearing Member exceeds the total amount of the suspended Clearing Member's Margin Deposit (including, without limitation, deposits required or made as Margin and Clearing Fund), and if such Clearing Member fails to pay the Corporation the amount of the deficiency on demand, the Corporation shall apply its own capital resources specifically set aside for such purpose up to the maximum amount set out in the Default Manual for a single Default Management Period, and if the amount of the deficiency exceeds such amount, the remaining deficiency shall be paid out of the Clearing Fund and charged based on the bidding behaviour of each Clearing Member in good standing in the course of the auction conducted in the course of the Default Management Period ("**Default Auction**") but, subject to and in accordance with the methodology set out in the Default Manual. In the event no Default Auction is conducted in the course of the Default Management Period, any deficiency shall be charged to the Clearing Members other than the suspended Clearing Member(s), *pro rata*, based on the quotient obtained by dividing the amount of such Clearing Member's Clearing Fund deposit required at the beginning of the Default Management Period by the aggregate amount of Clearing Fund deposits required at the beginning of the Default Management Period by all Clearing Members other than the suspended

Clearing Member(s). Notwithstanding any such charges made against the Clearing Fund deposits of each of the Clearing Members, the suspended Clearing Member which failed to pay the deficiency shall remain liable to the Corporation for the full amount of such deficiency until its repayment.

- (3) Whenever any such charges are made against Clearing Members' deposits to the Clearing Fund, the Corporation shall promptly notify each Clearing Member of the amount of the charge and the reasons therefor. For the purposes of this Section A-609, the amount of any claim of the Corporation for deficiencies against a Clearing Member shall be determined without reference to the possibility of any subsequent recovery in respect thereof, through insolvency proceedings or otherwise, but the net amount of any such recovery shall be applied in accordance with Section A-612.
- (4) Without limiting the rights of the parties under Section A-607 and Subsections A-609(1) and (2), at the sole discretion of the Corporation, all Cash deposited with the Corporation as a Clearing Fund deposit by any and all Clearing Members may be pledged, repledged, hypothecated, rehypothecated or transferred by the Corporation as security for, or in connection with, the Corporation's own obligations to any person incurred in order (a) to obtain liquidity or credit for the purpose of assisting the Corporation to honour its obligations on a timely basis further to the designation by the Corporation of a Clearing Member as being a Non-Conforming Member, or (b) to fund a payment obligation of the Corporation which arises pursuant to a Failed Delivery under Subsection A-804(1) by any Clearing Member, and any such security or transfer will be effective without the holder or recipient thereof being required to make any enquiry as to whether the applicable obligations have been incurred for the purposes set out in this Subsection A-609(4) or whether the funds so obtained are being used for such purposes. Without limiting the rights of the Corporation under Subsection A-701(2), at the sole discretion of the Corporation, in the case of the situation described in (a) above, the Corporation shall pledge the Non-Conforming Member's Margin Deposits (including, without limitation, Margin and Clearing Fund), in accordance with Subsection A-701(5), before pledging the Clearing Fund deposits of other Clearing Members. In the case of the situation described in (b) above, the Corporation shall pledge the Clearing Fund deposits of the Provider of Securities responsible for the Failed Delivery before pledging the Clearing Fund deposits of other Clearing Members. The Corporation shall be deemed to continue to hold all Cash deposited with the Corporation as Clearing Fund deposits, regardless of whether the Corporation has exercised its rights under this Subsection A-609(4).
- (5) Without limiting the rights of the Corporation under Subsections A-609(1) and A-609(4), during a single Default Management Period, the Corporation shall not, with respect to each Clearing Member that has not been suspended, apply more than 200% of the Clearing Fund deposit required by such Clearing Member as of the date of the commencement of the Default Management Period to satisfy or otherwise settle any obligations, losses or expenses incurred or sustained by the Corporation in connection with the suspension(s) of Clearing Member(s).

SECTION A-610

MAKING GOOD ON CHARGES TO CLEARING FUND

Whenever an amount is paid out of the Clearing Fund deposits of the Clearing Members that have not been suspended, in accordance with Subsection A-609(2), such Clearing Members shall be liable to make good the deficiency if any in their deposits resulting from such payment on the Business Day following the date that the amount is paid out (T+1), by 10 a.m. (no same-day contribution), unless the Corporation issues a

notice specifying a later date. Notwithstanding the foregoing, Clearing Members will not be liable to make good during a single Default Management Period more than an additional 200% of the amount of their Clearing Fund deposits required at the beginning of the Default Management Period as prescribed by the Rules.

SECTION A-611 DEPOSIT REFUND

- (1) Whenever a Clearing Member ceases to be a Clearing Member in accordance with Section A-1A09, the amount of its Clearing Fund deposit shall be returned, subject to the time limit specified in Subsection A-611(2). All outstanding amounts chargeable against a Clearing Member's deposit in connection with its activities while a Clearing Member, shall be deducted from the amount to be returned.
- (2) Thirty days after a Clearing Member has ceased to be a member of the Corporation in accordance with Section A-1A09, the Corporation shall authorize such former member to withdraw its Clearing Fund deposit.

SECTION A-612 RECOVERY OF LOSS

- (1) Subject to Section A-1013, if an amount charged against the deposits of Clearing Members in the Clearing Fund is subsequently recovered by the Corporation from the Clearing Member whose failure to pay led to the amount being charged, in whole or in part, the net amount of such recovery shall be paid or credited to the Clearing Members against whose deposit the loss was charged in proportion to the amount charged against their respective deposits, whether or not they remain Clearing Members.
- (2) Any Clearing Member that has had an amount charged against its deposit under Subsection A-609(2), shall have the right to claim from the Clearing Member whose failure to pay a deficiency led to the amount being charged and the Clearing Member shall be obliged to reimburse such other Clearing Member the amount so charged against the Clearing Member's deposit to the extent that such amount has not been recovered by the Corporation pursuant to Subsection A-612(1).

[...]



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

~~AUGUST 15, 2019~~



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ESCALATION PROCEDURE

MARGIN FUND ACCOUNT

[...]

CLEARING FUND

Each Clearing Member (excluding LCMs) approved to clear Exchange Transactions and/or OTCI Transactions and/or Fixed Income Transactions shall maintain a deposit in the Clearing Fund of the amounts from time to time required by CDCC in accordance with Rule A-6. The Clearing Fund has been established to protect CDCC and its Clearing Members (including their Affiliate(s)) from potential defaults and other market events and shall be used for the purposes set out in Section A-609 and Subsection A-701(2) of the CDCC Rules.

Each Clearing Member's (excluding LCMs) contribution includes a required Base Deposit and a Variable Deposit. The details of the Base and Variable Deposits are set forth in Rule A-6.

Clearing Fund Statement Report

On the first Business Day of each calendar month, CDCC shall issue to each Clearing Member (excluding LCMs) a Clearing Fund statement that shall list the current amount of such Clearing Member's deposits to the Clearing Fund and the amount of deposit, which is based on the monthly calculation of the Variable Deposit, required of such Clearing Member. CDCC will also issue a Clearing Fund statement (MA71) intra-monthly if an increase to the Variable Deposit is necessary. Any deficit between the amounts held on deposit and the deposit required to be made by a Clearing Member must be satisfied on the next Business Day (T+1) before 102:00 a.m. (no same-day deposit) on the next Business Day.

Deposits

Deposits to the Clearing Fund shall be in the form of ~~Cash Eligible Collateral as specified in the Risk Manual, in an amount sufficient, taking into account the market value and applicable haircuts as specified in Section A-707.~~ Deposits to the Clearing Fund are made and valued in the same manner and are subject to the same deadlines as for Margin deposits, as set forth in Section 2 of this Operations Manual.

Withdrawals

Clearing Members (excluding LCMs) may request to withdraw any surplus amount from the Clearing Fund, subject to applicable deadlines, as set forth in Section 2 of this Operations Manual.

Substitutions

~~Substitutions of assets (other than cash) in the Clearing Fund are made in the same manner and subject to the same deadlines as Margin Fund Account substitutions of assets (other than cash), as set forth in Section 2 of this Operations Manual.~~

Pledges

~~Pledges of Cash must be performed in accordance with Rule A-6. Securities pledges must be performed through CDSX in CDCC's account. The entries on the pledging screen of the CDCC Clearing Application are matched by CDCC to corresponding entries on the reporting system of the relevant Central Securities Depository.~~



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

I- RISK MANUAL	SCHEDULE A
<i>I.1- DEFAULT MANUAL</i>	<i>APPENDIX 1</i>
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ESCALATION PROCEDURE

MARGIN FUND ACCOUNT

[...]

CLEARING FUND

Each Clearing Member (excluding LCMs) approved to clear Exchange Transactions and/or OTCI Transactions and/or Fixed Income Transactions shall maintain a deposit in the Clearing Fund of the amounts from time to time required by CDCC in accordance with Rule A-6. The Clearing Fund has been established to protect CDCC and its Clearing Members (including their Affiliate(s)) from potential defaults and other market events and shall be used for the purposes set out in Section A-609 and Subsection A-701(2) of the CDCC Rules.

Each Clearing Member's (excluding LCMs) contribution includes a required Base Deposit and a Variable Deposit. The details of the Base and Variable Deposits are set forth in Rule A-6.

Clearing Fund Statement Report

On the first Business Day of each calendar month, CDCC shall issue to each Clearing Member (excluding LCMs) a Clearing Fund Statement that shall list the current amount of such Clearing Member's deposits to the Clearing Fund and the amount of deposit, which is based on the monthly calculation of the Variable Deposit, required of such Clearing Member. CDCC will also issue a Clearing Fund statement (MA71) intra-monthly if an increase to the Variable Deposit is necessary. Any deficit between the amounts held on deposit and the deposit required to be made by a Clearing Member must be satisfied on the next Business Day (T+1) before 10:00 a.m. (no same-day deposit).

Deposits

Deposits to the Clearing Fund shall be in the form of Cash. Deposits to the Clearing Fund are made and valued in the same manner and are subject to the same deadlines as for Margin deposits, as set forth in Section 2 of this Operations Manual.

Withdrawals

Clearing Members (excluding LCMs) may request to withdraw any surplus amount from the Clearing Fund, subject to applicable deadlines, as set forth in Section 2 of this Operations Manual.

Pledges

Pledges of Cash must be performed in accordance with Rule A-6.



RISK MANUAL

~~JUNE 28, 2019~~

[...]

SECTION 2 Eligible Collateral

As set out in Section 1 of the Risk Manual, 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 this section, in an amount sufficient, taking into account the market value and applicable Haircuts.

2.1 FORMS OF COLLATERAL

The forms of eligible collateral that may be deposited by or on behalf of a Clearing Member with CDCC, as prescribed in Rule A-6 (Clearing Fund Deposits) and Rule A-7 (Margin requirements), are one or more of the following assets:

- 1) Cash: Cash is the only form of eligible collateral that can be deposited in the Clearing Fund
- 2) Debt Securities
- 3) Valued Securities

CDCC may, on an exceptional and temporary basis at its sole discretion, exclude certain forms of eligible collateral or accept other forms of collateral.

2.2 CASH

Cash amounts are accepted only in Canadian dollars. Cash is the only form of eligible collateral that can be deposited in the Clearing Fund.

2.3 DEBT SECURITIES

2.3.1 General Considerations

Debt Securities which fulfill certain minimum criteria may be deemed as an eligible form of collateral.

Acceptance of a Debt Security is conditional on the availability of a price from a source that CDCC determines to be acceptable and reliable.

CDCC establishes, reviews and publishes the list of eligible Debt Securities on a regular basis.

Irrespective of the fact that a Debt Security fulfils all eligibility criteria, CDCC will not accept as collateral from or on behalf of a Clearing Member any Debt Security issued or guaranteed by the Clearing Member itself or its Affiliates.

2.3.2 Types of Debt Securities

The Debt Security must be a debt instrument having a fixed and unconditional principal amount.

The coupon rate of the debt instrument must be fixed. Zero coupon bonds are eligible.

Furthermore, real return bonds can be eligible for a specific issuer as determined by CDCC on the list of eligible Debt Securities.

The Debt Security must not have an embedded option or carry a right of conversion into equity securities, with the exception of non-financial calls (i.e. "Canada Call").

Saving Bonds, floating rate notes, stripped coupons and residual securities are excluded.

2.3.3 Types of Issuers

The eligible Debt Securities must be issued or guaranteed by the Government of Canada, by a provincial government or by the United States ("U.S.") Government.

2.3.4 Eligible Debt Securities by Issuer

2.3.4.1 Debt Securities issued by the Government of Canada:

- Treasury bills, bullet bonds and real return bonds.

2.3.4.2 Debt Securities guaranteed by the Government of Canada:

- Treasury bills, bullet bonds and Debt Securities issued by Canada Housing Trust.

2.3.4.3 Debt Securities issued by a provincial government:

- Treasury bills and bullet bonds issued by the governments of Alberta, British Columbia, Manitoba, Ontario and Quebec.
-

2.3.4.4 Debt Securities guaranteed by a provincial government:

- Bullet bonds issued by Financement Quebec, Hydro-Quebec and Ontario Electricity Financial Corporation.

2.3.4.5 Debt Securities issued by the U.S. Government

- Treasury bills, notes, bonds, and Treasury inflation-protected securities (TIPS).

2.3.5 Settlement Procedures

Debt Securities must be transferable in book-entry form using CDSX of CDS Clearing and Depository Services Inc.

2.3.6 Currency of Denomination

Debt Securities must be denominated in Canadian dollars with the exception of Debt Securities issued by the U.S. Government denominated in U.S. dollars.

2.4 VALUED SECURITIES**2.4.1 General Considerations**

CDCC accepts Valued Securities trading on the Toronto Stock Exchange or the TSX Venture Exchange.

Irrespective of the fact that a Valued Security fulfils all eligibility criteria, CDCC will not accept as collateral from or on behalf of a Clearing Member any Valued Security issued or guaranteed by the Clearing Member itself or its Affiliates.

No value will be recognized for a Valued Security whose closing price is below \$10 per share.

2.4.2 Settlement Procedures

Valued Securities must be transferable in book-entry form using CDSX of CDS Clearing and Depository Services Inc.

2.4.3 Currency of Denomination

Valued Securities must be denominated in Canadian dollars.

2.5 RISK CONTROL MEASURES

2.5.1 General Considerations

The CDCC collateral framework takes a conservative approach to manage the forms of eligible collateral accepted. The framework includes, but is not limited to, risk limits and calculation of Haircuts that apply to the different forms of eligible collateral.

2.5.2 Risk Limits

2.5.2.1 Limits at the Clearing Member Level

- Except for the Variation Margin account, for each acceptable Government Debt Security, excluding Treasury bills, a concentration limit equal to \$250 million or 10% of the total issue outstanding, whichever is less, is applied to each Clearing Member.
- Valued Securities issued or guaranteed by the Clearing Member or its Affiliates are not eligible.
- Valued Securities issued by the TMX Group are not eligible.

2.5.2.2 Limit on the Clearing Fund Account

For each Clearing Member, for all of its accounts combined, 100% of the Clearing Fund Requirements must be covered by Cash, ~~acceptable Treasury bills issued by the Government of Canada or any combination thereof after the application of Haircuts.~~

2.5.2.3 Limit on the Margin Requirements¹

For each Clearing Member, for all of its accounts combined, at least 25% of the Margin requirements must be covered by Cash, acceptable Treasury bills and bonds issued or guaranteed by the Government of Canada or any combination thereof valued after the application of Haircuts.

¹ This excludes the Net Variation Margin Requirement.

For each Clearing Member, for all of its accounts combined, no more than 40% of the Margin requirements may be covered by Debt Securities issued by the United States of America Federal Government after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 50% of the Margin requirements may be covered by provincial issued or guaranteed Debt Securities after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 20% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Alberta after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 20% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of British Columbia after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 20% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Manitoba after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 30% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Ontario after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 30% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Quebec after the application of Haircuts.

For each Clearing Member, for all of its accounts combined no more than 15% of the Margin requirements may be covered by Valued Securities after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 5% of the Margin requirements may be covered by any one Valued Security after the application of Haircuts.

2.5.2.4 Limit on the Variation Margin Account

For each Clearing Member, for all of its accounts combined, 100% of the Net Variation Margin Requirement must be covered by acceptable Treasury bills and bonds issued or guaranteed by the Government of Canada, Government of Alberta, Government of British Columbia, Government of Ontario and Government of Quebec or any combination thereof after the application of Haircuts.

CDCC shall, on an exceptional basis, acting reasonably, accept cash or other securities as collateral to cover the Net Variation Margin Requirement.

2.5.3 Limits at CDCC Level

For each acceptable Valued Security, a concentration limit of 5% of the free float applies at CDCC level.

2.6 HAIRCUTS

2.6.1 Haircuts for Government Securities

The Corporation calculates the Haircuts based on any of the following criteria:

- Valuation of the market, credit, liquidity and foreign exchange risks based on historical daily returns;
- The volatility estimator uses the exponentially weighted moving average (“EWMA”) approach as defined in Appendix 6.5, and the assumption that the bond can be liquidated at a reasonable price in “n” days. (“n” is determined according to the type of products and prevailing market conditions). In addition, a floor for the EWMA volatility estimator is calculated as the 25th percentile of a daily EWMA volatility estimator observed over the last 10 years;
- Liquidity risk valued according to the bid-ask spread of the issues using the same EWMA volatility estimator and the floor (if this spread is unavailable, the liquidation window will be expanded and will depend on market conditions);
- Bonds of the same issuer and comparable maturities.

Once the quantitative analysis is performed, CDCC reserves the right to increase the Haircuts based on qualitative criteria, such as:

- Comparative analysis of CDCC's Haircuts in relation to the Haircuts of the Bank of Canada;
- Comparative analysis of CDCC's Haircuts in relation to the Haircuts of other clearing houses;
- The congruence of the different Haircuts to the credit rating spreads of the different issuers; and
- Any other factor considered relevant by CDCC, acting reasonably.

2.6.2 The Haircuts for Valued Securities

A Haircut of 50% is applied to all Valued Securities pledged against the total Margin requirement for all accounts combined.

2.6.3 Haircuts Policy

CDCC reviews and publishes the Haircuts from time to time, and the Clearing Members are informed of these reviews by written notice.

[...]



RISK MANUAL

[...]

SECTION 2 Eligible Collateral

As set out in Section 1 of the Risk Manual, 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 this section, in an amount sufficient, taking into account the market value and applicable Haircuts.

2.1 FORMS OF COLLATERAL

The forms of eligible collateral that may be deposited by or on behalf of a Clearing Member with CDCC, as prescribed in Rule A-6 (Clearing Fund Deposits) and Rule A-7 (Margin requirements), are one or more of the following assets:

- 1) Cash; Cash is the only form of eligible collateral that can be deposited in the Clearing Fund
- 2) Debt Securities
- 3) Valued Securities

CDCC may, on an exceptional and temporary basis at its sole discretion, exclude certain forms of eligible collateral or accept other forms of collateral.

2.2 CASH

Cash amounts are accepted only in Canadian dollars. Cash is the only form of eligible collateral that can be deposited in the Clearing Fund.

2.3 DEBT SECURITIES

2.3.1 General Considerations

Debt Securities which fulfill certain minimum criteria may be deemed as an eligible form of collateral.

Acceptance of a Debt Security is conditional on the availability of a price from a source that CDCC determines to be acceptable and reliable.

CDCC establishes, reviews and publishes the list of eligible Debt Securities on a regular basis.

Irrespective of the fact that a Debt Security fulfils all eligibility criteria, CDCC will not accept as collateral from or on behalf of a Clearing Member any Debt Security issued or guaranteed by the Clearing Member itself or its Affiliates.

2.3.2 Types of Debt Securities

The Debt Security must be a debt instrument having a fixed and unconditional principal amount.

The coupon rate of the debt instrument must be fixed. Zero coupon bonds are eligible.

Furthermore, real return bonds can be eligible for a specific issuer as determined by CDCC on the list of eligible Debt Securities.

The Debt Security must not have an embedded option or carry a right of conversion into equity securities, with the exception of non-financial calls (i.e. "Canada Call").

Saving Bonds, floating rate notes, stripped coupons and residual securities are excluded.

2.3.3 Types of Issuers

The eligible Debt Securities must be issued or guaranteed by the Government of Canada, by a provincial government or by the United States ("U.S.") Government.

2.3.4 Eligible Debt Securities by Issuer

2.3.4.1 Debt Securities issued by the Government of Canada:

- Treasury bills, bullet bonds and real return bonds.

2.3.4.2 Debt Securities guaranteed by the Government of Canada:

- Treasury bills, bullet bonds and Debt Securities issued by Canada Housing Trust.

2.3.4.3 Debt Securities issued by a provincial government:

- Treasury bills and bullet bonds issued by the governments of Alberta, British Columbia, Manitoba, Ontario and Quebec.
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2.3.4.4 Debt Securities guaranteed by a provincial government:

- Bullet bonds issued by Financement Quebec, Hydro-Quebec and Ontario Electricity Financial Corporation.

2.3.4.5 Debt Securities issued by the U.S. Government

- Treasury bills, notes, bonds, and Treasury inflation-protected securities (TIPS).

2.3.5 Settlement Procedures

Debt Securities must be transferable in book-entry form using CDSX of CDS Clearing and Depository Services Inc.

2.3.6 Currency of Denomination

Debt Securities must be denominated in Canadian dollars with the exception of Debt Securities issued by the U.S. Government denominated in U.S. dollars.

2.4 VALUED SECURITIES**2.4.1 General Considerations**

CDCC accepts Valued Securities trading on the Toronto Stock Exchange or the TSX Venture Exchange.

Irrespective of the fact that a Valued Security fulfils all eligibility criteria, CDCC will not accept as collateral from or on behalf of a Clearing Member any Valued Security issued or guaranteed by the Clearing Member itself or its Affiliates.

No value will be recognized for a Valued Security whose closing price is below \$10 per share.

2.4.2 Settlement Procedures

Valued Securities must be transferable in book-entry form using CDSX of CDS Clearing and Depository Services Inc.

2.4.3 Currency of Denomination

Valued Securities must be denominated in Canadian dollars.

2.5 RISK CONTROL MEASURES

2.5.1 General Considerations

The CDCC collateral framework takes a conservative approach to manage the forms of eligible collateral accepted. The framework includes, but is not limited to, risk limits and calculation of Haircuts that apply to the different forms of eligible collateral.

2.5.2 Risk Limits

2.5.2.1 Limits at the Clearing Member Level

- Except for the Variation Margin account, for each acceptable Government Debt Security, excluding Treasury bills, a concentration limit equal to \$250 million or 10% of the total issue outstanding, whichever is less, is applied to each Clearing Member.
- Valued Securities issued or guaranteed by the Clearing Member or its Affiliates are not eligible.
- Valued Securities issued by the TMX Group are not eligible.

2.5.2.2 Limit on the Clearing Fund Account

For each Clearing Member, for all of its accounts combined, 100% of the Clearing Fund Requirements must be covered by Cash.

2.5.2.3 Limit on the Margin Requirements¹

For each Clearing Member, for all of its accounts combined, at least 25% of the Margin requirements must be covered by Cash, acceptable Treasury bills and bonds issued or guaranteed by the Government of Canada or any combination thereof valued after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 40% of the Margin requirements may be covered by Debt Securities issued

¹ This excludes the Net Variation Margin Requirement.

by the United States of America Federal Government after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 50% of the Margin requirements may be covered by provincial issued or guaranteed Debt Securities after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 20% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Alberta after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 20% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of British Columbia after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 20% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Manitoba after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 30% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Ontario after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 30% of the Margin requirements may be covered by Debt Securities issued or guaranteed by the province of Quebec after the application of Haircuts.

For each Clearing Member, for all of its accounts combined no more than 15% of the Margin requirements may be covered by Valued Securities after the application of Haircuts.

For each Clearing Member, for all of its accounts combined, no more than 5% of the Margin requirements may be covered by any one Valued Security after the application of Haircuts.

2.5.2.4 Limit on the Variation Margin Account

For each Clearing Member, for all of its accounts combined, 100% of the Net Variation Margin Requirement must be covered by acceptable

Treasury bills and bonds issued or guaranteed by the Government of Canada, Government of Alberta, Government of British Columbia, Government of Ontario and Government of Quebec or any combination thereof after the application of Haircuts.

CDCC shall, on an exceptional basis, acting reasonably, accept cash or other securities as collateral to cover the Net Variation Margin Requirement.

2.5.3 Limits at CDCC Level

For each acceptable Valued Security, a concentration limit of 5% of the free float applies at CDCC level.

2.6 HAIRCUTS

2.6.1 Haircuts for Government Securities

The Corporation calculates the Haircuts based on any of the following criteria:

- Valuation of the market, credit, liquidity and foreign exchange risks based on historical daily returns;
- The volatility estimator uses the exponentially weighted moving average (“EWMA”) approach as defined in Appendix 6.5, and the assumption that the bond can be liquidated at a reasonable price in “n” days. (“n” is determined according to the type of products and prevailing market conditions). In addition, a floor for the EWMA volatility estimator is calculated as the 25th percentile of a daily EWMA volatility estimator observed over the last 10 years;
- Liquidity risk valued according to the bid-ask spread of the issues using the same EWMA volatility estimator and the floor (if this spread is unavailable, the liquidation window will be expanded and will depend on market conditions);
- Bonds of the same issuer and comparable maturities.

Once the quantitative analysis is performed, CDCC reserves the right to increase the Haircuts based on qualitative criteria, such as:

- Comparative analysis of CDCC’s Haircuts in relation to the Haircuts of the Bank of Canada;
 - Comparative analysis of CDCC’s Haircuts in relation to the Haircuts of other clearing houses;
-

- The congruence of the different Haircuts to the credit rating spreads of the different issuers; and
- Any other factor considered relevant by CDCC, acting reasonably.

2.6.2 The Haircuts for Valued Securities

A Haircut of 50% is applied to all Valued Securities pledged against the total Margin requirement for all accounts combined.

2.6.3 Haircuts Policy

CDCC reviews and publishes the Haircuts from time to time, and the Clearing Members are informed of these reviews by written notice.

[...]
