NOTICE TO MEMBERS

No. 2016 – 101
August 16, 2016

REQUEST FOR COMMENTS

AMENDMENTS TO THE RULES, THE OPERATIONS MANUAL AND THE RISK MANUAL OF CDCC FOR THE INTRODUCTION OF SHARE FUTURES CONTRACTS

Summary

On July 28, 2016, the Board of Directors of Canadian Derivatives Clearing Corporation (CDCC) approved amendments to the Rules, the Operations Manual and the Risk Manual of CDCC. The purpose of the proposed amendments is to update and harmonize the rules in order to allow the relaunch of Share Futures Contracts.

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 is 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 amendment of Rules and Operations Manual of CDCC. Amendments are submitted to the AMF in accordance with the self-certification process and the Ontario Securities Commission in accordance with the process provided in its Recognition Order.

Comments on the proposed amendments must be submitted within 30 days following the date of publication of the present notice. Please submit your comments to:

Mr. Jacques Guvlekjian
Legal Counsel
Canadian Derivatives Clearing Corporation
Tour de la Bourse
P.O. Box 61, 800 Victoria Square
Montréal, Québec H4Z 1A9
Email: legal@m-x.ca

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

Mrs. Anne-Marie Beaudoin
Corporate Secretary
Autorité des marchés financiers
Tour de la Bourse, P.O. Box 246
800 Victoria Square, 22nd Floor
Montréal, Québec H4Z 1G3
Email:consultation-en-cours@lautorite.qc.ca

Manager, Market Regulation
Market Regulation Branch
Ontario Securities Commission
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20 Queen Street West
Toronto, Ontario, M5H 3S8
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For any question or clarification, Clearing Members may contact CDCC's Corporate Operations.

Glenn Goucher
President and Chief Clearing Officer

AMENDMENTS TO THE RULES, THE OPERATIONS MANUAL AND THE RISK MANUAL OF THE CANADIAN DERIVATIVES CLEARING CORPORATION FOR THE INTRODUCTION OF SHARE FUTURES CONTRACTS

I. SUMMARY

Bourse de Montréal Inc. (the "Bourse") is proposing to list for trading Share Futures (also known as ''Single Stock Futures (SSF)''). While the Rules of the Canadian Derivatives Clearing Corporation ("CDCC") already contain some rules regarding Share Futures, this product has not traded in recent years and therefore the rules have not been kept up-to-date. The proposed changes aim to align the rules with the changes in market practices and with the evolution of the CDCC's rules since Share Futures were last cleared by the CDCC. CDCC will leverage our current clearing model for futures and margin requirements will be calculated using SPAN® methodology.

Consequently, CDCC proposes minor amendments to the current Rules. In addition, the Risk Manual will be modify to incorporate specific margin methodology changes related to this product. Slight modifications to the Operational Manual are also proposed.

II. ANALYSIS

a. Background

Share Futures

On January 31, 2001, the Bourse launched physically delivered futures contracts on Nortel, North America's first share futures contract. Since the offering never gained traction the contract was delisted and the product line discontinued.

On February 29, 2012, the Bourse officially announced the introduction of a new share futures product line given renewed interest by market participants. The contracts were to be listed for trading on March 2, 2012. The day preceding the launch, it was discovered that an important external stakeholder would not be able to support the product launch and the launch was subsequently called off.

Following recent regulatory trends affecting the OTC market, the demand for Futures contracts on Canadian shares resurfaced. Further to the confirmation that the product could be supported by some of the pillar stakeholders, the Bourse has decided to list the product.

From a risk perspective, Share Futures are calibrated using the current risk methodology for Futures. The following section covers the risk methodology and described the minor changes to the Risk Manual and Operations Manual necessary to accommodate the clearing by CDCC of Share Futures to be listed for trading by the Bourse.

Risk management

To calculate an appropriate margin requirement in SPAN®, CDCC must consider the risk dynamic of each Share Future underlying. Margin offset will be limited to Share Futures sharing the same underlying. No margin relief between Share Futures sharing different underlying will be offered.

b. Description and Analysis of Impacts

The following describes the main terms and conditions for margin requirements and cash settlement applicable to the clearing of this contract:

In order to integrate all the main market risk factors in SPAN®, the following modeling elements were considered to develop a coherent margin requirement for Share Futures:

1) Margin Interval (MI) will be calculated on a daily basis based on the methodology applicable for Options.

2) CDCC will bundle together (in a same Bucket or Combined Commodity[1]) Share Futures with the same underlying.

3) No margin reduction will be offered between Share Futures sharing different underlying.

In order to calculate the variation margin, Share Futures contracts will be marked-to-market daily based on the Daily Settlement Price established by the Bourse. At the Expiration Date, the contract is physically-settled at the Final Settlement Price determined by the Bourse. The Bourse shall publish and report to CDCC the Final Settlement Price on the first business day following the last trading day of the contract.

c. Proposed Amendments

The proposed amendments are presented in Appendix 1, 2 and 3.

d. Benchmarking

The following table describes the margin model used by each CCP associated to the clearing of Share Futures.

Exchange	CCP	Listing status	Netting with options products	Margin model
Montreal Exchange	CDCC	Q4 2016	No	SPAN methodology
OneChicago	OCC	Live	Yes[2]	SPAN methodology
EUREX	Eurex Clearing	Live	Yes	Prisma portfolio-based margining
Euronext	LCH Clearnet	Live	Yes	SPAN methodology
ICE Futures Europe	ICE Clear Europe	Live	Yes	SPAN methodology

[1] Combined Commodity is a basic concept used for risk calculation in SPAN®. This is a set of contracts having the same underlying instrument.

[2] OCC members are able to reduce costs by cross-margining their security futures positions against offsetting options.

III. PRIMARY MOTIVATION

The proposed amendments are motivated by the Bourse's decision to launch the Share Futures, which demands minor amendments to the Rules and manuals of the CDCC.

IV. IMPACTS ON TECHNOLOGICAL SYSTEMS

The proposed solution will be implemented in the Canadian Derivatives Clearing Services (CDCS) (SOLA-C and SOLA-R components). In order to minimize the potential for operational risk, the new solution will be properly tested with a complete user acceptance test (UAT) prior to its implementation in the production system.

V. OBJECTIVES OF THE PROPOSED MODIFICATIONS

The objective of the proposed modifications is to allow for the clearing of Share Futures.

VI. PUBLIC INTEREST

The modifications to the Rules and Manuals of CDCC are proposed to make possible the clearing of Share Futures. In CDCC's opinion, the proposed amendments are not contrary to the public interest.

VII. MARKET IMPACTS

None.

VIII. PROCESS

The proposed amendment is submitted for approval by the CDCC Board. After the approval has been obtained, the proposed amendment, 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 amendment and analysis will also be submitted for approval to the Bank of Canada in accordance with the Regulatory Oversight Agreement.

IX. EFFECTIVE DATE

CDCC would like to implement the amendments in the last quarter of 2016 or the first quarter of 2017.

X. ATTACHED DOCUMENTS

Appendix 1: Amended the Rules
Appendix 2: Amended Operations Manual
Appendix 3: Amended Risk Manual

APPENDIX 1

CANADIAN DERIVATIVES CLEARING CORPORATION

RULES

VERSION OF ~~NOVEMBER 18~~, 2016~~5~~

RULE A-9 ADJUSTMENTS IN CONTRACT TERMS

SECTION A-901 APPLICATION

This Rule A-9 is applicable to Transactions where the Underlying Interest is a Security.

SECTION A-902 ADJUSTMENTS IN TERMS

1) Whenever there is a dividend, stock dividend, stock distribution, stock split, trust unit split, reverse stock split, reverse trust unit split, rights offering, distribution, reorganization, recapitalization, reclassification or similar event in respect of any Underlying Interest, or a merger, consolidation, dissolution or liquidation of the issuer of any Underlying Interest, the number of Derivative Instruments, the Unit of Trading, the Exercise Price, and the Underlying Interest, or any of them, with respect to all outstanding Derivative Instruments open for trading in that Underlying Interest may be adjusted in accordance with this Section A-902.

2) Subject to Subsection (13) of this Section A-902, all adjustments made pursuant to this Section A-902 shall be made by a committee ("Adjustments Committee"). The Adjustments Committee shall determine whether to make adjustments to reflect particular events in respect of an Underlying Interest, and the nature and extent of any such adjustment, based on its judgment as to what is appropriate for the protection of investors and the public interest, taking into account such factors as fairness to Clearing Members and the Corporation, the maintenance of a fair and orderly market in Derivative Instruments on the Underlying Interest, consistency of interpretation and practice, efficiency of exercise settlement procedures, and the coordination with other clearing agencies of the clearance and settlement of transactions in the Underlying Interest. The Adjustments Committee may, in addition to determining adjustments on a case-by-case basis, adopt statements of policy or interpretation having general application to specified types of events. Any such statements of policy or interpretation shall be disseminated to all Clearing Members, Exchanges and securities and3or derivative instruments regulatory authorities having jurisdiction over the Corporation. Every determination by the Adjustments Committee pursuant to this Section A-902 shall be within the sole discretion of the Adjustments Committee and shall be conclusive and binding on all Clearing Members and not subject to review, other than review by securities and/or derivative instruments regulatory authorities having jurisdiction over the Corporation pursuant to applicable provisions of the respective statutes.

3) It shall be the general rule that there will be no adjustments of Options and similar instruments to reflect ordinary cash dividends or distributions, or ordinary stock dividends or distributions, or ordinary trust unit dividends or distributions declared by the issuer of the Underlying Interest, or any cash dividend or distribution declared by the issuer of the Underlying Interest if such dividend or distribution is less than $12.50 per contract.

4) It shall be the general rule that there will be no adjustments of Transactions other than Options and similar instruments to reflect ordinary cash dividends or distributions, or ordinary stock dividends or distributions, or ordinary trust unit dividends or distributions declared by the issuer of the Underlying Interest if such dividend or distribution is less than $12.50 per contract.

5)

i) For all Options and similar instruments it shall be the general rule that in the case of a stock dividend, stock distribution, stock split, trust unit dividend, trust unit distribution, trust unit split or similar event whereby one or more whole number of additional shares of the Underlying Interest are issued with respect to each outstanding share, each Option or similar instrument covering that Underlying Interest shall be increased by the same number of additional contracts as the number of additional shares issued with respect to each share of the Underlying Interest, and the Exercise Price per share in effect immediately prior to such event shall be proportionately reduced, and the Unit of Trading shall remain the same.

ii) For all Options and similar instruments it shall be the general rule that in the case of a stock dividend, stock distribution, stock split, trust unit dividend, trust unit distribution, trust unit split or similar event whereby other than a whole number of shares of the Underlying Interest is issued in respect of each outstanding share, the Exercise Price in effect immediately prior to such event shall be proportionately reduced, and the Unit of Trading shall be proportionately increased.

iii) For all Options and similar instruments it shall be the general rule that in the case of a reverse stock split, consolidation or combination of shares, or similar event, each Option and similar instrument covering the affected Underlying Interest shall be adjusted, solely for purposes of determining the property deliverable upon exercise of the Option or similar instrument, by decreasing the Unit of Trading to reflect the number of shares eliminated. If an adjustment is made in accordance with the preceding sentence, the Unit of Trading for all such adjusted series of Options or similar instruments shall remain unchanged for purposes of determining the aggregate Exercise Price of the Option or similar instrument and for purposes of determining the premium for any such instrument purchased and sold.

iv) For all Transactions other than those covering Options and similar instruments it shall be the general rule that in the case of a stock dividend, stock distribution, stock split, trust unit dividend, trust unit distribution, trust unit split or similar event whereby one or more whole number of additional shares of the Underlying Interest are issued with respect to each outstanding share, each Derivative Instrument covering that Underlying Interest shall be increased by the same number of additional contracts as the number of additional shares issued with respect to each share of the Underlying Interest, the last Settlement Price established immediately before such event shall be proportionately reduced, and the Unit of Trading shall remain the same.

v) For all Transactions other than those covering Options and similar instruments it shall be the general rule that in the case of a stock dividend, stock distribution, stock split, trust unit dividend, trust unit distribution, trust unit split or similar event whereby other than a whole number of shares of the Underlying Interest is issued in respect of each outstanding share, the last Settlement Price established immediately before such event shall be proportionately reduced, and the Unit of Trading shall be proportionately increased.

vi) For all Transactions other than those covering Options and similar instruments it shall be the general rule that in the case of a reverse stock split, consolidation or combination of shares, or similar event, each Derivative Instrument covering the affected Underlying Interest shall be adjusted, solely for purposes of determining the property deliverable upon exercise of the instrument, by decreasing the Unit of

Trading to reflect the number of shares eliminated. If an adjustment is made in accordance with the preceding sentence, the Unit of Trading for all such adjusted series of Derivatives Instruments shall remain unchanged for purposes of determining the aggregate Settlement Price of the Derivatives Instrument and for purposes of determining the premium for any such instrument purchased and sold.

6) It shall be the general rule that in the case of any distribution made with respect to shares of an Underlying Interest, other than ordinary dividends or distributions subject to Subsection (3) and (4) of this Section A-902 and other than dividends or distributions for which adjustments are provided in Subsection (5) of this Section A-902, if an adjustment is determined by the Adjustments Committee to be appropriate, for Options and similar instruments:

vii) the Exercise Price in effect immediately prior to such event shall be reduced by the value per share of the distributed property, in which event the Unit of Trading shall not be adjusted, or

viii) the Unit of Trading in effect immediately prior to such event shall be adjusted so as to include the amount of property distributed with respect to the number of shares of the Underlying Interest represented by the Unit of Trading in effect prior to such adjustment, in which event the Exercise Price shall not be adjusted;

for all other Transactions for which an Exercise Price is not available:

ix) the last Settlement Price established immediately before such event shall be reduced by the value per share of the distributed property, in which event the Unit of Trading shall not be adjusted, or

x) the Unit of Trading in effect immediately prior to such event shall be adjusted so as to include the amount of property distributed with respect to the number of shares of the Underlying Interest represented by the Unit of Trading in effect prior to such adjustment, in which event the Settlement Price shall not be adjusted.

xi) The Adjustments Committee shall, with respect to adjustments under this Subsection or any other Subsection of this Section A-902, have the authority to determine the value of distributed property.

7) In the case of any event for which adjustments are not provided in any of the foregoing Subsections of this Section A-902, the Adjustments Committee may make such adjustments, if any, with respect to the characteristics of the Derivative Instrument affected by such event as the Adjustments Committee determines.

8) Adjustments pursuant to this Section A-902 as a general rule shall become effective in respect of Transactions outstanding on the "ex-dividend date" established by the exchange or exchanges on which the Underlying Interest is traded. In the event that the "ex-dividend date" for an Underlying Interest traded on exchanges differs from one exchange to another, the Corporation shall deem the earliest date to be the "ex-dividend date" for the purposes of this Section A-902. "Ex-dividend dates" established by any other exchange or exchanges on which an Underlying Interest may be traded shall be disregarded.

9) It shall be the general rule that (i) all adjustments of the Exercise Price of an outstanding Option or similar instrument shall be rounded to the nearest adjustment increment, (ii) when an adjustment causes an Exercise Price to be equidistant between two adjustment increments, the Exercise Price shall be rounded up to the next highest adjustment increment, (iii) all adjustments of the Unit of

Trading shall be rounded down to eliminate any fraction, and (iv) if the adjustment is made pursuant to subparagraph (5)(iii) above, the value of the fractional share so eliminated as determined by the Corporation shall be added to the Unit of Trading, or if the adjustment is made pursuant to subparagraph (5)(ii) above, if the Unit of Trading is rounded down to eliminate a fraction, the adjusted Exercise Price may be further adjusted, to the nearest adjustment increment, to reflect any diminution in the value of the Option or similar instrument resulting from the elimination of the fraction.

10) It shall be the general rule that (i) all adjustments of the Settlement Price of an outstanding transaction other than those covering an Option or similar instrument shall be rounded to the nearest adjustment increment, (ii) when an adjustment causes a Settlement Price to be equidistant between two adjustment increments, the settlement price shall be rounded up to the next highest adjustment increment, (iii) all adjustments of the Unit of Trading shall be rounded down to eliminate any fraction, and (iv) if the adjustment is made pursuant to subparagraph (5)(v) above, the value of the fractional share so eliminated as determined by the Corporation shall be added to the Unit of Trading, or if the adjustment is made pursuant to subparagraph (5)(iv) above, if the Unit of Trading is rounded down to eliminate a fraction, the adjusted Settlement Price may be further adjusted, to the nearest adjustment increment, to reflect any diminution in the value of the Derivative Instrument resulting from the elimination of the fraction.

11) Notwithstanding the general rules set forth in Subsections (3) through (9) of this Section A-902 or which may be set forth as interpretations and policies under this Section A-902, the Adjustments Committee shall have the power to make exceptions in those cases or groups of cases in which, in applying the standards set forth in Subsection (2) thereof the Adjustments Committee shall determine such exceptions to be appropriate. However, the general rules shall be applied unless the Adjustments Committee affirmatively determines to make an exception in a particular case or group of cases.

12) For Exchange Transactions, the Adjustments Committee shall consist of two designated representatives of the exchange that lists the Derivative Instrument that the adjustments apply to, and one representative designated by the Corporation; and the quorum for transacting exchange transactions business at any meeting of the Adjustments Committee shall be two from the exchange and one from the Corporation. For OTCI, the Adjustments Committee will consist of three designated representatives of the Corporation; and the quorum for transacting OTCI business at any meeting of the Adjustments Committee is three designated representatives of the Corporation. The vote of a majority of the members of the Adjustments Committee in attendance at any meeting shall constitute the determination of the Adjustments Committee. The Adjustments Committee may transact its business by means of a telephonic, electronic or other communication facility that permits all participants to communicate appropriately with each other during the meeting. Notwithstanding the foregoing provisions of this Subsection, any representative of the Corporation or of an Exchange may designate any other representative of the Corporation or of the exchange, respectively, to serve in his place at any meeting of the Adjustments Committee. In the event of such designation, the designee, for the purposes of such meeting, shall have all of the powers and duties under this Section A-902 of the person designating him. Any representative designated by the Corporation or the Exchange, or any other representative designated by such a representative, cannot serve on the Adjustments Committee if such person, is the beneficial holder of a long or short position in the Derivative Instrument or OTCI as to which the Adjustments Committee is to make a determination. As stipulated in the By-laws of the Corporation, a majority of the members of the Adjustments Committee shall be resident Canadians.

13) In the event that the Adjustments Committee is unable to determine whether to make adjustments in any particular case, the matter shall be referred to the Board for a determination.

INTERPRETATIONS AND POLICIES

14)

xii) Cash dividends or distributions (regardless of size) declared by the issuer of the Underlying Interest which the Corporation considers to have been declared pursuant to a policy or practice of paying such dividends or distributions on a quarterly basis or other regular basis, as well as resumption of dividends or distributions will, as a general rule, be deemed to be "ordinary cash dividends or distributions" within the meaning of Subsection A-902(3). Cash dividends or distributions declared by the issuer of the Underlying Interest which are declared outside of a policy or practice of paying such dividends or distributions on a quarterly basis or other regular basis will be deemed to be "special cash dividends or distributions" if they exceed the threshold of $12.50 per contract.

xiii) Stock dividends or distributions, or trust unit dividends or distributions declared by the issuer of the Underlying Interest in an aggregate amount that per dividend or distribution does not exceed 10% of the number of shares of the Underlying Interest outstanding as of the close of trading on the declaration date, and which the Corporation considers to have been declared pursuant to a policy or practice of paying such dividends or distributions on a quarterly basis will, as a general rule, be deemed to be "ordinary stock dividends or distributions" or "ordinary trust unit dividends or distributions" within the meaning of Subsection A-902(3).

xiv) Cash dividends or distributions declared by the issuer of the Underlying Interest which the Corporation considers to have been declared outside of a regular policy or practice of paying such dividends or distributions and that exceeds $12.50 per contract will be deemed to be "special cash dividends or distributions" within the meaning of Subsection A-902(3).

xv) Stock dividends or distributions, or trust unit dividends or distributions declared by the issuer of the Underlying Interest which the Corporation considers to have been declared outside of a regular policy and that exceeds 10% of the number of shares of the Underlying Interest will be deemed to be "special stock dividends or distributions" or "special trust unit dividends or distributions" within the meaning of Subsection A-902(3).

xvi) Cash dividends or distributions declared by the issuer of the Underlying Interest which the Corporation considers to have been declared pursuant to a policy or practice of paying such dividends or distributions on a quarterly basis or other regular basis, as well as resumption of dividends or distributions will, as a general rule, be deemed to be "ordinary distributions" within the meaning of Subsection A-902(4). The Corporation will determine on a case-by-case basis whether other dividends or distributions are "ordinary distributions" or whether they are dividends or distributions for which an adjustment should be made.

xvii) Stock dividends or distributions or trust unit dividends or distributions by the issuer of the Underlying Interest which the Corporation considers to have been declared pursuant to a policy or practice of paying such dividends or distributions on a quarterly basis will, as a general rule, be deemed to be "ordinary distributions" within the meaning of Subsection A-902(4). The Corporation will ordinarily adjust for other stock dividends and distributions.

Nevertheless, the Adjustments Committee will determine, on its sole discretion, on a case-by-case basis whether other dividends or distributions are "ordinary dividends or distributions" or whether they are dividends or distributions for which adjustments should be made, regardless of the threshold of $12.50 per contract applied to "special dividends or distributions".

Normally, the Adjustments Committee shall classify a cash dividend or cash distribution as non-ordinary when it believes that similar cash dividends or cash distributions will not be paid on a quarterly or other regular basis. Notwithstanding that the Adjustments Committee has classified a cash dividend or cash distribution as non-ordinary, it may, with respect to events announced on or after February 1, 2012, classify subsequent cash dividends or cash distributions of a similar nature as ordinary if (i) the issuer discloses that it intends to pay such dividends or distributions on a quarterly or other regular basis, (ii) the issuer has paid such dividends or distributions for four or more consecutive months or quarters or two or more years after the initial payment, whether or not the amounts paid were the same from period to period, or (iii) the Adjustments Committee determines for other reasons that the issuer has a policy or practice of paying such dividends or distributions on a quarterly or other regular basis.

15)

xviii) Adjustments will not ordinarily be made to reflect the issuance of so-called "poison pill" rights that are not immediately exercisable, trade as a unit or automatically with the Underlying Interest, and may be redeemed by the issuer. In the event such rights become exercisable, begin to trade separately from the Underlying Interest, or are redeemed, the Adjustments Committee will determine whether adjustments are appropriate.

xix) Except as provided above in the case of certain "poison pill" rights, adjustments for rights distributions will ordinarily be made to Transactions other than those covering Options and similar instruments. When an adjustment is made for a rights distribution, the Unit of Trading in effect immediately prior to the distribution will ordinarily be adjusted to include the number of rights distributed with respect to the number of shares of the Underlying Interest comprising the Unit of Trading. If, however, the Corporation determines that the rights are due to expire before the time they could be exercised upon delivery under the contract, then delivery of the rights will not be required. Instead, the Corporation will ordinarily adjust the last Settlement Price established before the rights expire to reflect the value, if any, of the rights as determined by the Corporation in its sole discretion.

xx) Adjustments will not be made to reflect a take-over bid or issuer bid made for the Underlying Interest, whether such offer is for cash, Securities or other property. This policy will apply without regard to whether the price of the Underlying Interest may be favourably or adversely affected by the offer or whether the offer may be deemed to be "coercive". Outstanding Transactions ordinarily will be adjusted to reflect a merger, amalgamation, arrangement or similar event that becomes effective following the completion of a take-over bid.

xxi) Adjustments will not be made to reflect changes in the capital structure of an issuer where all of the Underlying Interest in the hands of the public (other than dissenters' shares) are not changed into another Security, cash or other property. For example, adjustments will not be made merely to reflect the issuance (except as a distribution on an Underlying Interest) of new or additional debt, stock, trust units, or options, warrants or other securities convertible into or exercisable for the Underlying Interest, the refinancing of the issuer's outstanding debt, the repurchase by the issuer of less than all of the Underlying Interest outstanding or the sale by the issuer of significant capital assets.

xxii) When an Underlying Interest is converted into a right to receive a fixed amount of cash, such as in a merger, amalgamation, arrangement or similar event, outstanding Options or similar instruments will be adjusted to require the delivery upon exercise of cash in an amount per share equal to the conversion price. As a result of such adjustments, the value of all outstanding In-the-money Options or similar instruments will become fixed, and all At-the-money and Out-of-the-money Options or similar instruments will become worthless. Outstanding transactions other than those covering Options or similar instruments will be adjusted to replace such Underlying Interest with such fixed amount of cash as the Underlying Interest, and the Unit of Trading shall remain unchanged.

xxiii) In the case of a spin off or similar event by the issuer of an Underlying Interest which results in a property distribution, Derivatives Instruments will be adjusted to reflect such distribution. The value of the property distributed shall be reflected in the shares deliverable.

xxiv) In the case of a corporate reorganization or similar occurrence by the issuer of an Underlying Interest which results in an automatic share-for-share exchange of the Underlying Interest for shares of another class in the capital of the issuer or in the resulting company, the Transactions on the Underlying Interest will ordinarily be adjusted to require delivery upon exercise of a like number of units of the shares of such other class or of the resulting company. Because the Securities are generally exchanged only on the books of the issuer and/or the resulting company, as the case may be, and are generally not exchanged physically, deliverable shares will ordinarily include certificates that are denominated on their face as shares in the original class of shares of the original issuer, but which, as a result of the corporate transaction, represent shares in the other class or in the resulting company, as the case may be.

xxv) When an Underlying Interest is converted in whole or in part into a debt security and/or a preferred stock, as in a merger, and interest or dividends on such debt security or preferred stock are payable in the form of additional units thereof, outstanding Transactions that have been adjusted to call for delivery of such debt security or preferred stock shall be further adjusted, effective as of the ex-date for each payment of interest or dividends thereon, to call for delivery of the securities distributed as interest or dividends thereon.

xxvi) Notwithstanding Interpretation and Policy (1) under Section A-902, (i) "ordinary cash dividends or distributions" within the meaning of paragraph (3) of Section A-902 shall not, as a general rule, be deemed to include distributions of short-term or long-term capital gains by the issuer of the Underlying Interest, and (ii) "ordinary cash dividends or distributions" within the meaning of paragraph (3) of Section A-902 shall not, as a general rule, be deemed to include other distributions by the issuer of the Underlying Interest, provided that (a) the issuer is an entity that holds securities or replicates holding of securities that track the performance of an index that underlies a class of index Options or index Futures, and the distribution on the Underlying Interest includes or reflects a dividend or other distribution on a security part of the index that resulted in an adjustment of the index divisor; or (b) the distribution on the Underlying Interest includes or reflects a dividend or other distribution on a security part of the index (I) that results in an adjustment of Options and similar instruments on other Underlying Interest pursuant to clause (ii)(a), or (II) that is not deemed an ordinary dividend or distribution under Interpretation (1) above.

Adjustments of the terms of Options and similar instruments on such Underlying Interest for distributions described in clause (i) or (ii) above shall be made in accordance with paragraph (6) of Section A-902, unless the Adjustments Committee determines, on a case-by-case basis, not to adjust for such a distribution; provided, however, that no adjustment shall be made for any such distribution where the amount of the adjustment would be less than $.125 per Underlying Interest.

RULE C-15 SHARE FUTURES

The Sections of this Rule C-15 are applicable only for Futures settling on a future date where the Underlying Interest is an individual stock.

SECTION C-1501 DEFINITIONS

"Canadian Share Futures" – A Futures contract that requires the parties to this contract to make or receive delivery of a specified number of Canadian Stocks at the expiry of the contract at a price agreed upon when the contract was entered into on the Exchange.

"Canadian Stock" – An individual stock issued by a Canadian reporting issuer listed on a ~~Canadian~~ r~~R~~ecognized e~~E~~xchange as defined in Regulation 21-101 respecting Marketplace Operation, as amended from time to time.

"Delivery" – physical delivery made in accordance with the delivery procedure of CDS following the Maturity Date, or on a day as otherwise determined by the Corporation.

"Final Settlement Price" – the price of the Underlying Interest as determined by the product specifications of the Bourse de Montréal Inc.

"Foreign Share Futures" – A Futures contract that requires the parties to this contract to pay or receive from the Corporation the difference between the Final Settlement Price of the Underlying Interest and the initial Trade Price multiplied by the appropriate Unit of Trading.

"Last Trading Date" – the Maturity Date.

"Maturity Date" – the Final Settlement Day as defined by the Bourse de Montréal Inc. from time to time.

"Recognized Exchange" – a recognized exchange according to the definition in Rule One of Bourse de Montréal Inc. as amended from time to time.

"Settlement Price" – the official daily closing price of a Futures, as determined in accordance with Section C-301.

"Underlying Interest" – Stocks meeting the criteria described in this Rule.

"Unit of Trading" – 100 shares of the Underlying Interest, unless otherwise designated.

SECTION C-1502 APPROVAL OF UNDERLYING INTEREST

The Stocks underlying the Futures issued by the Corporation shall be approved based on criteria described in Section C-1503 of the Rules.

SECTION C-1503 CRITERIA FOR ELIGIBILITY OF SHARE FUTURES

In considering whether any Stock should be approved as the Underlying Interest of a Share Futures, the Corporation, in those circumstances where C-1505 does not apply, shall ensure that prior to being approved as an Underlying Interest the Stock meets all of the following criteria:

1) For a Canadian Share Futures, the Canadian Stock will meet the Options eligibility criteria described in Section B-603.

2) For a Foreign Share Futures, the Stock:

   i) trades on a Recognized Exchange; and
   ii) there are derivatives listed on a Recognized Exchange on that Underlying Interest.

SECTION C-1504 INELIGIBILITY CRITERIA FOR SHARE FUTURES

No new series of Canadian Share Futures which is already listed may be opened for trading if any one of the -conditions ~~events~~ described in Section B-604, with applicable adaptations, occurs with respect to the Underlying Interest.

SECTION C-1505 PROCEDURE FOR ASSESSING THE EFFECT OF STOCK LIST CHANGES ON SHARE FUTURES ELIGIBILITY

1) Acquisition of a Listed Company by a Newly-Established Company

   If a newly-established entity~~company~~ has acquired a listed company, the trading record and history of the predecessor entity~~company~~ may be used to test the Share Futures eligibility of the stock of the new entity~~company~~ as provided for in Section C-1503.

2) Name Changes

   Corporate name changes have no effect on listed issues Share Futures eligibility. All statistics and history prior to the entity name change~~of the predecessor company~~ continue to apply to the Underlying Interest under the new corporate name.

3) Substitutional Listings

   When a Stock list change which is the result of a merger or acquisition involving the issuance or acquisition of listed shares has occurred, all listed issues connected with the change are reviewed by the Corporation. No decision to change the Share Futures status of a listed issue will occur until after the offer or transaction is completed. The general process which applies is as follows:

   a)

      i) it is confirmed by the Corporation that each of the predecessor companies is listed on a Recognized Exchange; or
      ii) on receipt of the notice of corporate change or following the closing date of a share purchase offer, it is confirmed by the Corporation that at least one predecessor company has Share Futures currently listed on the Bourse de Montréal Inc., and

these Share Futures are not at or past the date where no new series may be listed if they are classified as delistable by the Corporation.

b) It is confirmed by the Corporation that the resultant company is listed on a Recognized Exchange.

4) New Shares

If new shares are created for the purpose of completing a merger or acquisition involving the issuance or acquisition of listed shares, the relationship between the old and new shares will determine if the new shares will be treated either as a substitutional, original or supplementary listing by the Corporation. Generally if the new issue is the only common issue of the company, then the new issue will be treated as a substitutional issue. Otherwise the issue will be treated as an original or supplementary issue by the Corporation.

SECTION C-1506 WITHDRAWAL OF APPROVAL OF UNDERLYING INTEREST

Whenever the Corporation~~Board~~ determines that an Underlying Interest, for any reason, should no longer be approved, the Corporation shall advise the Exchange that the Corporation will no longer accept trades in such Class of Futures (other than closing transactions) or in any additional Series of Futures of the Class of Futures covering that Underlying Interest.

SECTION C-1507 UNAVAILABILITY OR INACCURACY OF CURRENT VALUE

1) If the Corporation shall determine that the Final Settlement Price for any series of Share 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 times 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 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.

~~A)~~ **Section C-1508 through Section C-1511 inclusive apply to Canadian Share Futures:**

SECTION C-1508 GOOD DELIVERABLE FORM OF STOCKS

A Stock held at CDS shall be deemed to be in good deliverable form for the purposes hereof only if the delivery of such Stock would constitute good delivery under the regulations, rules and policies of the Exchange.

SECTION C-1509 DELIVERY THROUGH THE CENTRAL SECURITIES DEPOSITORY

1) Day of Delivery – Physical delivery of the Underlying Interest as required by this Rule shall be made in accordance with the delivery procedure of CDS following the Maturity Date, or on a day as otherwise determined by the Corporation.

2) ~~If the member can not provide proof of delivery by that deadline, the member will be considered non-conformed~~.

SECTION C-1510 ASSIGNMENT OF SHARE FUTURES CONTRACTS

All long Share Futures contract positions will receive delivery in accordance with the Corporation's procedures from accounts with open Short Positions in the Series of Futures involved. The Corporation shall treat the accounts of all Clearing Members equally.

~~B)~~ **Section C-1511 through C-1513 inclusive apply to Foreign Share Futures:**

SECTION C-1511 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 made 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

a) each position opened prior to the last trading day is the difference between

   i) the Final Settlement Price; and
   ii) the Settlement Price of the contract on the business day before the last trading day, multiplied by the Unit of Trading using the current foreign currency rate as specified in the product specifications, and

b) each position opened on the last trading day is the difference between

   i) the Final Settlement Price; and
   ii) the Trade Price of the open contract, multiplied by the Unit of Trading using the current foreign currency rate as specified in the product specifications.

SECTION C-1512 TENDER NOTICES

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

SECTION C-1513 PAYMENT AND RECEIPT OF PAYMENT OF THE TRADE PRICE

The settlement value of maturing contract will be included with other settlements on the daily Detailed Futures Consolidated Activity Report and Futures Sub-Accounts Consolidated Activity Report.

SECTION C-1514 ACCELERATION OF EXPIRATION DATE

When a Share Futures contract, where the Underlying Interest is an equity stock, is adjusted pursuant to Rule A-9 – Adjustment In Contract Terms, to require the delivery upon settlement of a fixed amount of Cash, the Maturity Date of the Share Futures contract will ordinarily be accelerated to fall on or shortly after the date on which the conversion of the Underlying Interest to a right to receive Cash occurs.

The Maturity Date of the closest month of the Share Futures contract will remain unchanged. All Share Futures contracts set to expire after this date will have their Maturity Date accelerated to the nearest practical date following the adjustment.

The fixed amount of Cash will be delivered according to CDCC's payment process.

APPENDIX 2

CANADIAN DERIVATIVES CLEARING CORPORATION
CORPORATION CANADIENNE DE COMPENSATION DE PRODUITS DÉRIVÉS

OPERATIONS MANUAL

VERSION OF ~~APRIL 29~~, 2016

REPORT REFERENCES

Clearing Member reports contain the following information:

Transactions	Reports relating to Clearing Member's Transactions such as trade entries, trade corrections, trade rejections and exercises/tenders. These reports start with the alpha code MT.
Fees	Report relating to the collection of service fees from the Clearing Member. These reports start with the alpha code MB.
Settlements	Reports relating to Premiums, Settlement of Gains and Losses, and Margin. These reports start with the alpha code MS.
Assets	Reports relating to the maintenance of Clearing Member assets as well as depository information. These reports start with the alpha code MA.
Delivery	Reports relating to delivery obligations and unsettled deliveries. These reports start with the alpha code MD.
Positions	Reports relating to positions held by Clearing Members separately for Futures, Options, OTCI and Fixed Income Transactions. These reports start with the alpha code MP.
Expiry	Reports used by Clearing Members to verify expiring positions and automatic exercises. These reports start with the alpha code MX.
Risk	Reports relating to risk management. These reports start with the alpha code MR.

REPORT DETAILS

Report Code	Report Name	Report Description
Daily:		
MA01	Deposits and Withdrawals Report	Details on Clearing Member's deposits and withdrawals for Margin, Clearing Fund and Difference Fund. (**Note**: will find the letters D, W and PW next to the date of deposit)
MD01	Options Unsettled Delivery Report	Lists unsettled deliveries for Options.
MD51	Futures Unsettled Delivery Report	Lists unsettled deliveries for Futures (does not include Share Futures) - the issue and number of Futures contracts which must be delivered - the account to which the delivery has been assigned and the opposite Clearing Member - the Settlement Amount and settlement date
MD52	Share Futures Unsettled Delivery Report	Lists unsettled deliveries for Share Futures (SF) - the issue and number of SF contracts which must be delivered - the account to which the delivery has been assigned and the opposite Clearing Member - the Settlement Amount and settlement date
MD70	Fixed Income Net Settlement Delivery Status Report	Status of Clearing Member's settlement activity at the Central Securities Depository with respect to Acceptable Securities on that day.
MP01	Options Open Positions Report	Lists the Clearing Member's Open Positions for puts and calls.
MP02	Sub-Account Options Open Positions Report	Lists all Options Open Positions in sub-accounts of the Clearing Member's Client Account(s), Firm Account(s) and Multi-Purpose Account(s).
MP21	Contract Adjustment Report	Lists the Clearing Member's Long Positions and Short Positions before and after the relevant contract adjustment.
MP51	Futures Open Positions Report	Lists the Clearing Member's Futures and Options on Futures Open Positions for all accounts.
MP70	Fixed Income Forward Repo Position Report	Lists the Clearing Member's Repurchase Transactions accepted for clearing by CDCC.
MP71	Fixed Income Repo Conversion Position Report	Lists all of the Clearing Member's Repurchase Transactions that have progressed from Forward Repurchase Transactions to Running Repurchase Transactions on that day.
MP73	Fixed Income Running Repo Open Positions Report	Lists all of the Clearing Member's Running Repurchase Transactions as of that day.
MP75	Fixed Income Forward Net Settlement Positions Report	Lists all of the Clearing Member's forward Net Settlement Positions obligations.
MP79	Daily Repo Rate Mark to Market Report	Lists the Clearing Member's MTM Repo Rate Payments, OCF MTM Payments and Net MTM Reversal Requirement for that day.
MR05	*OTCI (Converge)* Position Limits Usage Report	Lists Clearing Member's percentage of OTCI (*Converge)* Position Limits used.
MR50	Daily Capital Margin Monitoring Report	Lists Clearing Member's Margin and capital requirements. Identifies if additional Margin is required.
MS01	Daily Settlement Summary Report	Lists assets balances with Margin requirements and cash settlement in Canadian and U.S. dollars.
MS03	Trading and Margin Summary Report	Lists Options Premiums, Settlement of Gains and Losses, Futures Premiums and Margin requirements for each sub-account. **Note**: Does not include trade adjustments (T+1)
MS05	SPAN Performance Bond	The report shows the Performance Bond (Margin) requirements for

	Summary Report	each Clearing Member by type of account.
MS07	Intra-Day Margin Report	Margin call details with Margin requirements by account.
MS08	Daily Margin Activity Report	Lists details of positions by Class Group with Margin requirements.
MS70	Fixed Income Net Settlement Position Activity Report	Lists all of the Clearing Member's Fixed Income Transactions activities that contribute to its Net Settlement Position.
MS75	Fixed Income End of Day Settlement Instruction Report	Detail of Clearing Member's net settlement instructions to be sent to the Central Securities Depository after Netting Cut-Off Time.
MS78	Forward NSP & Settlement Instruction Reconciliation Report	Information report containing Net Settlement Position information for the use of Clearing Member for reconciliation.
MT01	Options Daily Transaction Report	Lists details for all Option contracts from previous Business Day.
MT02	Options Exercised and Assigned Report	Lists totals for Options Exercised Positions and Assigned Positions by Series of Options (including the debit and credit dollar values of the Transactions).
MT03	List of Options/Cash Adjustments Report	Lists all trade adjustments and Open Position changes including cash adjustments and Position Transfers.
MT05	Options Consolidated Activity Report	Lists all positions with activity including Option Premiums.
MT06	Options Sub-Account Consolidated Activity Report	Lists positions with activity including Option Premiums for only the sub-accounts of Client, Firm and Multi-Purpose.
MT10	Unconfirmed Items Report	Lists all items that remained unconfirmed by the opposite member at the end of the current Business Day.
MT29	Trades Rejection Modification Report	Lists all original and modified trade rejections for the Clearing Member.
MT51	Final Futures Daily Transaction Report	Lists trade details for all Futures and Options on Futures activity.
MT52	Futures Tenders and Assignments Report	Lists all Tender Notices and Assigned Positions details.
MT53	List of Futures/Cash Adjustments Report	Lists details on all Futures and Options on Futures trade adjustments, Open Position changes, including cash adjustments and Position Transfers.
MT54	Futures Trading Summary Report	Lists all Series of Futures and Options on Futures and prices, and volumes at which each were traded. Lists number of contracts bought and sold for each Series of Futures Trade Prices.
MT60	Share Futures Tender and Assigned Report	Lists totals for Share Futures (SF) tendered and assigned positions including the debit and credit dollar values of the transactions.
MT66	Futures Sub-Account Consolidated Activity Report	Lists Futures and Options on Futures positions with activity including Settlement of Gain and Losses and Futures Premiums respectively, for the sub-accounts of Client, Firm and Multi-Purpose.
MT70	Fixed Income Novated Transactions Report	Lists the Clearing Member's daily Fixed Income Transactions novated to CDCC in accordance with the CDCC Clearing Application.
MT71	Fixed Income CSD Novated Trades Report	Lists the data transmitted to CDCC by the Central Securities Depository with respect to the Clearing Member's daily Fixed Income Transactions submitted for clearing.
MT73	Fixed Income Trade Rejection Report	Lists details of Clearing Member's daily Fixed Income Transactions that were rejected (DK) by CDCC or by the Clearing Member itself.
MT74	Fixed Income Not-Novated Transactions Report	Lists the Clearing Member's daily Fixed Income Transactions that were not novated to CDCC, including all rejected and orphaned trades.
MT92	Options on Futures Exercised & Assigned Report	Lists totals for Options on Futures Exercised Positions and Assigned Positions by Series.

		Note: Futures Options Exercised Positions and Assigned Positions value is nil
MT99	Detailed Futures Consolidated Activity Report	Detailed list of all Futures position with activity, including Settlement of Gains and Losses. Detailed list of all Options on Futures positions and activity including Futures Premiums.
Monthly:		
MA71	Clearing Fund Statement (monthly and intra-monthly)	Identifies the Clearing Member's Clearing Fund obligation. Lists the Clearing Member's current Deposits within the Clearing Fund and what is owed.
MB01	Monthly Clearing Fees Invoice	This report contains summarization of the monthly clearing fees in an invoice format – THIS IS NOT TO BE PAID. The system automatically includes the collection of the fees within the daily settlement on the morning of the fifth business day of the month.
MB02	Monthly Clearing Fees Details Report	This report contains the following four sub-reports: ''Fees'' – this is product by sub-account. ''Summary by Category'' – this is summarization by product. ''Summary by Account Operation Type'' – this is a summary of the operational charges by sub-account.
MB03	Monthly Fixed Income Clearing Fees Invoice	This report details the clearing fees that are due with respect to Fixed Income Transactions by each Clearing Member.
MT40	Broker Ranking by Account Report	Individual Clearing Member ranking within CDCC for contracts, value traded and transactions (trade only) by month with year to date.
FIFO Period:		
MP56	FIFO Position Report	Lists Series of Futures with positions in chronological order, contracts in positions.
MP60	FIFO Declaration vs. Open Position Report	Lists Clearing Member's Futures positions and FIFO long positions declaration.
Options on Futures Expiry:		
MT51	Final Futures Daily Transaction Report	Lists trade details for all Futures and Options on Futures activity.
MX11	Futures Options Expiry Report	Lists all expiring Options on Futures with In-the-Money Options or Out-Of-the-Money Options amounts and Automatic Exercise positions for Expiry.
MX12	Futures Options Expiry Adjustments Report	Lists all trade adjustments and Open Positions changes on expiring Series only.
MX13	Futures Options Expiry Difference Report	Lists all reported changes, deletions and/or additions to exercises on the Futures Options Expiry Report (MX11).
Options Expiry (Friday Evening):		
MT01	Options Daily Transaction Report	Lists trade details for all expiring Option contracts for the Business Day.
MT02	Options Exercised and Assigned Report	Lists totals for Options Exercised Positions and Assigned Positions by Series of Options (including the debit and credit dollar values of the transactions).
MX01	Expiry Report	Lists all expiring Options with In-the-Money Options or Out-of-the-Money Options amounts and Automatic Exercise positions for Expiry.
MX02	List of Expiry Adjustments Report	Lists all trade adjustments and Open Positions changes on expiring Series of Options only.
MX03	Expiry Difference Report	Lists all reported changes, deletions and/or additions to exercises on the Expiry Report.
OTCI Expiry:		
MX01	Expiry Report	Lists all expiring Options with In-the-Money Options or Out-of-the-Money Options amounts and Automatic Exercise positions for Expiry.

Business Day following Expiry:		
MP11	Expired Options Positions Report	Lists the Clearing Member’s balance of expired Options positions following the Friday Expiry process.
MP12	Expired Futures Options Positions Report	Lists the Clearing Member’s balance of expired Futures Options positions following the Friday Expiry process.

CLEARING MEMBER SECURITY OFFICER

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 and LGB three Business Days prior to the first Business Day of the Delivery Month up to and including the fourth to last Business Day of the Delivery Month.

~~Share fSingle Stock Futures~~ ~~before the Close of Business on the last trading daythree Business Days prior to the first Business Day of the Delivery Month up to and including the fourth to last Business Day of the Delivery Month.~~

CGZ two Business Days prior to the first Business Day of the Delivery Month up to and including the third to 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, Sectorial Indices, Share Futures, ~~Options~~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 ONX, OIS are automatically tendered on the first Business Day ~~of the~~ following the contract month, as per Contract Specifications, after Close of Business.

Assignment of Tender Notices

CDCC assigns all Tender Notices to open Long Positions on a random basis with the exception of the Government of Canada Bond Futures (CGB, LGB, CGF and CGZ). Assignments for the CGB, LGB, CGF and CGZ Futures are processed on a First-In-First-Out (FIFO) basis.

Delivery of the Underlying Interest and payment of the Settlement Price is effected by Clearing Members as instructed by CDCC.

APPENDIX 3

TMX | CDCC

Risk Manual

Glossary

Close-out Period: The required period the Corporation needs to unwind the positions in a particular contract without disrupting the market. This term is similar to the term “number of liquidation days”.

Concentration Risk: This risk refers to the position concentration risk which is the risk of one Clearing Member having a large net position with respect to the total open position in any particular contract leading to a higher Close-out Period for that Clearing Member. The higher Close-out Period will drive an additional margin for concentration risk.

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 and Share Futures, 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:

PSR = Underlying Interest Price x MI x 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 may 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' assignation 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.

Mismatched Settlement Risk: The Corporation considers this risk as the intraday risk arising from a lag between the following three events:

1) The Settlement of a position that provided a Margin offset prior to the next calculation of the Margin Requirement;
2) The calculation of the credit risk exposure and the settlement of the collateral deposits at CDCC;
3) A trade initiation and the calculation of the Margin Requirement.

Some of 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.

Acceptability of Underlying Interests

Acceptable Underlying Interests of Securities Options

- *Section B-603* of the Rules sets out the eligibility criteria for Securities Options.
- *Section B-604* of the Rules sets out the ineligibility criteria for Securities Options.
- Section B-605 of the Rules sets out the eligibility criteria for ETF Securities as Underlying Interest of Options.
- Section B-606 of the Rules sets out the ineligibility criteria for ETF Securities as Underlying Interest of Options.

CDCC reviews and publishes quarterly the eligibility threshold and ineligibility threshold in terms of Value of Available Public Float and volume (expressed as an average daily North American Volume of the last 20 Business Days) for clearing Securities Options.

Acceptable Underlying Interests of Share Futures

- *Section C-1503* of the Rules sets out the eligibility criteria for Share Futures.
- *Section C-1504* of the Rules sets out the ineligibility criteria for Share Futures.

CDCC reviews and publishes quarterly the eligibility threshold and ineligibility threshold in terms of Value of Available Public Float and volume (expressed as an average daily North American Volume of the last 20 Business Days) for clearing Share Futures.

Acceptable Underlying Interests of OTCI Securities Options

- *Section D-104* of the Rules sets out the acceptance criteria for OTCI.

CDCC reviews and publishes quarterly on its website a list of Acceptable Underlying Interests for clearing OTCI Securities Options.

Between two quarterly publications of the list of Acceptable Underlying Interests, a Clearing Member who wishes to clear OTCI Securities Options for which an Underlying Interest is not included on the list must obtain the Corporation's prior approval. The Underlying Interest must at least meet the acceptance criteria prescribed in *Section D-104* of the Rules.

Acceptable Underlying Interests of Cash Buy Or Sell Trades

For the application of *Sections D-104* and *D-603* of the Rules, Securities are acceptable for Cash Buy or Sell Trades clearing if they meet the following criteria:

- The issuer must be eligible, which includes the following issues:
  - Bonds and Treasury Bills issued by the Government of Canada, including real return issues;
  - Canada Mortgage and Housing Corporation debt securities;
  - Bonds issued by Business Development Bank of Canada;
  - Bonds issued by Export Development Canada;
  - Bonds issued by Farm Credit Canada; and
  - Bonds issued by Canada Post;
  - Bonds issued by certain provincial governments and provincial Crown corporations determined as acceptable by CDCC[1], excluding real return bonds, zero coupon bonds, and bonds with a maturity of less than one year.
- The bonds must be repayable at maturity;
- The bonds must be denominated in Canadian dollars;
- The coupon type must be fixed, real return, step-up or zero (Treasury Bills are eligible);
- The net amount outstanding[2] must be greater than or equal to $250 million;
- The bonds' prices must be issued by a source that is acceptable to the Corporation.

ACCEPTABLE UNDERLYING INTERESTS OF REPURCHASE TRANSACTIONS

For the application of the provisions of *Sections D-104* and *D-603* of the Rules, Securities are eligible for clearing of Repurchase Transactions if they meet the following criteria:

- The Underlying Interest must be an Acceptable Underlying Interest of Cash Buy or Sell Trades;
- The Purchase Date of the Repurchase Transaction must be no earlier than the Novation Date;
- The Repurchase Date of the Repurchase Transaction must not be more than 365 days later than the Purchase Date of the Repurchase Transaction and must be no later than the maturity date of the Acceptable Security.

[1] To be acceptable by CDCC, the issuer should be rated by two or more credit agencies (among Moody's Investors Service, Standard and Poor's, Fitch Ratingss and the Dominion Bond Rating Service). The final rating considered by CDCC corresponds to the second highest among ratings assigned by these agencies. Such final credit rating of the issuer must be investment grade and not lower than 6 notches below the credit rating assigned to the Government of Canada by the same credit agency.

[2] The net amount outstanding is defined as the outstanding amount issued on the market minus the stripped coupon bonds and issuer repurchases.

MARGIN DEPOSIT

The Corporation has three different funds for margining purposes and each serves a specific purpose:

- Margin Fund
- Difference Fund
- Clearing Fund

MARGIN FUND

The Margin Fund is composed of the Initial Margin and the Variation Margin. The Initial Margin covers the potential losses and market risk that may occur as a result of future adverse price movements across the portfolio of each Clearing Member under normal market conditions. Furthermore, in the event of a default, the Corporation is faced with closing out the defaulters' portfolio within a short period (the liquidation period). In a complementary manner, Variation Margin is a daily payment process that covers the market risk due to the change in price since the previous day, ahead of the default of one of its Clearing Members. Variation Margin is settled in cash for Futures contracts and collateralized for Options contracts, OTCI and Fixed Income Transactions. Additional margin for Concentration Risk is also collected in the Margin Fund.

INITIAL MARGIN

As fundamental inputs to calculate the Initial Margin, the Corporation uses the following parameters: 1) confidence level (to reflect normal market conditions), 2) assumed liquidation period and 3) historical volatility over a specific period.

Specifically, the Corporation uses a volatility estimator as described below and a confidence level over 99% under the Normal distribution's or the Student's t-distribution assumption. The Corporation also considers a variable number of days as an acceptable liquidation period. The Initial Margin amount is calculated using the historical volatility of the daily price returns of the Underlying Interests for Options contracts and Shares Futures, the daily price returns of the Futures prices for Futures contracts (excluding Shares Futures) and the yield-to-maturity (YTM) daily variation of the on-the-run security for Fixed Income Transactions. The historical volatility, combined with the liquidation period and the confidence level gives the Margin Interval (MI) as described below.

MARGIN INTERVAL (MI) CALCULATION

The Margin Interval calculations are re-evaluated on a regular basis. However, the Corporation may use its discretion and update the Margin Intervals more frequently if necessary. The Margin Intervals are used to calculate the Initial Margin for each

Derivative Instrument.

The Margin Interval (MI) is calculated using the following formula:

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

Where ‘n’ is the number of liquidation days (see the next section for more details). ‘α’ is equal to the critical value equivalent to 99.97% of the cumulative Normal distribution (applicable to all products except for the BAX Futures products) or equal to the critical value equivalent to 99% of the cumulative Student’s t-distribution with 4 degrees of freedom (applicable to the BAX Futures products). ‘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:

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

Where R is the contract one day price’s return, $\overline{R}$ is the mean return over the specified period and λ is the decay factor. CDCC uses λ = 0.99.

In addition, CDCC considers a minimal 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. In other words, the volatility estimator that will be used to calculate the MI can not be lower than the calculated floor.

Liquidation Period

The Corporation applies different number of liquidation days “n” depending on the type of product. The Corporation uses quantitative and qualitative analysis, established according to the degree of liquidity of the p~~P~~roduct/Underlying Interest which is derived from parameters such as, but not limited to, traded volume, Government of Canada/provincial yield spreads and international guidelines. For all products, “n” is determined at least once a year and communicated to Clearing Members by a written notice.

Furthermore, in anticipation of Remembrance Day (the “Banking Holiday”), the Corporation will add one (1) more Business Day to the number of liquidation days “n” for Equity and Index products. Hence, the liquidation period will be increased by one (1) more Business Day prior and up to the Banking Holiday. The additional margin amount for the Banking Holiday will be released on the morning of the following Business Day.

Additional Margin for Concentration Risk

Default Close-out Periods are set on a product specific basis and depends especially on their liquidity. In addition, the Corporation uses different number of liquidation days (or Close-out Period) for different bulf of positions to address and manage the position Concentration Risk. For every product, CDCC determines a threshold of positions that can be easily liquidated without causing a non-ordinary market impact. CDCC nets all positions of the Clearing Member across all its accounts and the net positions is compared to the threshold in order to determine the number of margin runs with their appropriate Close-out Periods applicable to the Clearing Member positions for each specific product. Furthermore, the additional Close-out Period is added to the default one for every product.

For example, let's assume that CDCC sets a threshold for a specific product with a default Close-out Period of two (2) days at 2500 contracts and the Clearing Member net position is 8000 contracts, CDCC will perform a first margin run with a number of liquidation days equal to two (2) (the default Close-out Period of this product) for the first 5000 contracts (5000 = 2500 * 2) and a second margin run with a number os liquidation days equal to 3 (the default Close-out Period of this product incremented by one (1) day) for 2500 contracts (i.e. the one day threshold) and a third margin run with a number of liquidation days equal to 4 (the default Close-out Period of this product incremented by two (2) days) for 500 contracts (i.e. the remaining position: 500 = 8000 – 5000 – 2500). The total Initial Margin CDCC charges the Clearing Member for this position is the sum of the three Initial Margins that are calculated for the three margin runs.

For Futures (excluding Shares Futures) and Fixed Income transactions, the thresholds are determined using an average trading volume of the product over a certain period of time. However for Options and Shares Futures, the thresholds are determined using an average trading volume over a certain period of time of the Underlying Interest.

Price Scan Range (PSR) Calculation

In order to calculate the most unfavourable projected liquidation value, the Risk Engine uses the MI of the above formula to calculate the Price Scan Range (PSR) and to run several scenarios through its Risk Array calculation (for a detailed description refer to the section on Risk Arrays below).

A Risk Array 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).

PSR is the maximum price movement reasonably likely to occur, for each Derivative Instrument or, for Options contracts, 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:

PSR = Underlying Interest Price x MI x Contract Size.

Initial margin Calculation

To calculate the Initial Margin, the Risk Engine uses the MI which is converted to the Scanning Risk parameter. The Scanning Risk parameter represents the difference between the current market value of a Derivative Instrument (for Exchange Transactions) or of an Acceptable Security (for Fixed Income Transactions) 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. The Scanning Risk is always calculated at the Combined Commodity level.

For contracts belonging to the same Combined Commodity, the Risk Engine adds up the Risk Arrays results of all contracts under the same risk scenario. It should be noted that in the situation where the Risk Engine does not consider other variables, the Scanning Risk is the Initial Margin for the Combined Commodity.

However, in some cases other variables can increase or decrease the Scanning Risk. For example, variables such as the Intra-Commodity (Inter-Month) Spread Charge which tends to increase the Initial Margin and the Inter-Commodity Spread Charge which tends to decrease the Scanning Risk to take advantage of the correlations between the different constituents of the Combined Commodity. Another example is the specific case of short deeply out-of-the-money options wherein the Risk Engine calculates a minimum amount called Short Option Minimum (SOM) which otherwise attracts little or no Initial Margin. Finally, in the case of OTCI with Physical Settlement/Delivery, the Corporation calculates an additional Liquidity Interval and adds it to the Margin Interval.

It should also be noted that, as described in the following sections, the determination of the Initial Margin is slightly different for Options contracts, Futures contracts and Fixed Income Transactions. The following table summarizes the list of variables used to calculate the Initial Margin by cleared product category:

Initial Margin ~~for Options Contracts~~

Input variables to calculate the Initial Margin	Options contracts (including OTCI options)	Futures contracts and Share Futures	Fixed Income Transactions
Scanning Risk	●	●	●
Intra-Commodity (Inter-Month) Spread Charge[3]		●	●
Inter-Commodity Spread Charge[4]		●	●
Short Option Minimum (SOM) amount	●		
Liquidity Interval[5]	●		

This section describes how the Initial Margin is calculated for the Options contracts, which include the equity options, index options, currency options, exchange-traded-fund options and options on futures.

The Risk Arrays are obtained by varying the Underlying Interest (eight scenarios) and the option's implied volatility (eight scenarios). The term PSR for Options contracts is calculated through the following formula:

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

For equity options contracts, the contract size is usually equal to 100.

OTCI Transactions for which the Underlying Interest is a Security

The Initial Margin calculation process for OTCI Transactions for which the Underlying Interest is a Security is the same as for listed options, except that the Corporation uses a theoretical price calculated using an in-house program, instead of the contractual option price.

Theoretical Price Calculation

The Corporation uses the Barone-Adesi and Whaley (BAW) model to evaluate the Options that have an American style and the Black and Scholes (BS) model to evaluate the Options that have a European style. In order to evaluate the Option

[3] ~~Not applicable to Share Futures Contracts.~~
[4] Idem 4
[5] Applicable for OTCI options with Physical Settlement/Delivery only

price, we need to determine the implied volatility to be used. For this, two different methodologies are used depending whether the Option is an Exchange traded Option.

If the Option contract is an Exchange traded Option, the Corporation uses the Option's data (the entire Option series for one expiry month) available at the Exchange and builds a Smile Volatility Curve using a Cubic Spline function. After building the Smile Curve, the Corporation determines the implied volatility that corresponds exactly to the strike price of the Option to be assessed. If the expiry date of the Option does not correspond to the ones of the listed series, the Corporation builds two Smile Volatility Curves, one using the Option series with an expiry date that is right after the one of the assessed Option and one using the series of Options with an expiry date that is right before the one of the assessed Option to be evaluated.

Then, the volatility that corresponds to the strike price of the Option to be evaluated is determined on each curve. Finally, a linear interpolation is done to determine the volatility that corresponds to the strike and to the expiry date of the Option to be evaluated. However, if the expiry date of the Option to be evaluated is before (after) the first (last) expiry date of the listed Options series, the Corporation uses the volatilities of the Smile Volatility Curve of the first (last) expiry date of the listed Option series.

If the Option is not listed and no data is available for it, the Corporation uses the yearly historical volatility of the Option's Underlying Interest price as a proxy for the implied volatility.

Liquidity Interval

To calculate the Margin Interval for OTCI transactions for which the Underlying Interest is a Security, the Corporation may apply a different number of liquidation days. In addition, for OTCI with Physical Settlement/Delivery, the Corporation calculates an additional Liquidity Interval and adds it to the Margin Interval.

The assumptions under which the Liquidity Interval is calculated are similar to the assumptions the Corporation uses to calculate the Margin Interval, i.e., the confidence interval over 99% is obtained by using 3 standard deviations (based on the normal distribution's assumptions). 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.

UNSETTLED ITEMS

Options contracts with physical delivery that have been exercised or expired in the money without being settled (i.e. the Underlying Interest is not delivered yet) are considered as Unsettled Items. Similarly, Shares Futures with physical delivery that expired are considered as Unsettled Items. ~~and t~~The Corporation has to manage the settlement risk associated with these products until the whole quantity of the Underlying Interest is completely delivered/settled. For instance, when such Option contract expires in the money, the Underlying Interest is delivered three days after the expiry date consistent with current market settlement conventions. The Corporation has to charge a Margin requirement to cover the Replacement Cost

(RC) of the Option contract and its Potential Future Exposure (PFE) as well. The procedure is as follows:

To cover the Replacement Cost of the Option contract, the Corporation requests a Margin requirement equal to the intrinsic value of the Option times the position (quantity of Options). However, when the writer of a put Option has deposited a Put Escrow Receipt to cover the total amount of the strike price in accordance with Section A-708 of the Rules, the Corporation will not require Margin on the relevant put Option. In the same manner, when the writer of a call Option has deposited a Call Underlying Interest Deposit to cover the total quantity of the Underlying Interest deliverable thereunder in accordance with Section A-708 of the Rules, the Corporation will not require Margin on the relevant call Option.

To cover the Potential Future Exposure of the Option contract, the Corporation requests a margin requirement amount to cover any potential Underlying Interest price movement over two days and within three standard deviations (under the normal distribution's assumption).

SPECIFIC WRONG-WAY RISK

The Specific Wrong-Way Risk arises where an exposure to a counterpary is highly likely to increase when the credit worthiness of that counterparty is deteriorating.

CDCC had identified three~~wo~~ particular situations where the Specific Wrong-Way Risk exists and it addresses them as follows:

Put Options: When a Clearing Member takes a Short Put Option position on the shares of its own company or affiliates, the full strike value amount is charged as margin requirement.

Share Futures: When a Clearing Member takes a long Share Futures position on the shares of its own company or affiliates, the full settlement value amount is charged as margin requirement.

Unsettled Items: For an Unsettled Item that is related to the Specific Wrong-Way Risk, the full strike value amount is charged as margin requirement for Options products and the full settlement value amount is charged as margin requirement for Share ~~.~~ Futures. In such case, the margin requirement is collected in the Difference Fund.

INITIAL MARGIN FOR FUTURES CONTRACTS

This section describes how the Initial Margin is calculated for the Futures contracts, which includes the Index Futures, Interest Rate Futures, Government of Canada Bonds Futures and Shares Futures.

The first part of the example # 2 of the previous section on Risk Arrays shows how the Scanning Risk is calculated. The Scanning Risk represents the most unfavourable projected liquidation value of the Futures position. The calculated Scanning Risk is the Initial Margin for a Futures contract. However, since the Futures contract prices are linear with respect to their Underlying Interest prices, the Active Scenario for a Futures contract is always the one with the positive amount between scenario 5 and scenario 6. In other words, the Initial Margin for a Futures contract is always equal to its Price Scan Range (PSR).

With respect to the Three-Month Canadian Bankers' Acceptance Futures (BAX) contract, CDCC combines the contracts in different groups and applies the same charge to the contracts of a same group.

CDCC updates the Margin Intervals (MI) on a regular basis and publish them on its website.

When the holder of a short position on a Futures contract has deposited a Futures Underlying Interest Deposit to cover the total quantity of the Underlying Interest deliverable thereunder in accordance with Section A-708 of the Rules, the Corporation will not require Margin on the relevant Futures contract.