



BY EMAIL
(Original by Registered Mail)

January 30, 2014

Ontario Securities Commission
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Attention: Ms. Susan Greenglass, Director, Market Regulation Branch

Dear Sirs and Mesdames:

Re: Canadian Derivatives Clearing Corporation – Application for recognition as a clearing agency under the Securities Act (Ontario)

Canadian Derivatives Clearing Corporation (“CDCC”) submits this application for recognition by the Ontario Securities Commission (“Commission” or “OSC”) as a clearing agency under subsection 21.2(0.1) of the *Securities Act* (Ontario) (the “Act”).

BACKGROUND AND PURPOSE

- I. The purpose of this application is to request that the Commission recognize CDCC as a clearing agency under subsection 21.2(0.1) of the Act.
- II. Originating in 1975 as the clearing facility for the first Canadian equity options market, CDCC expanded its service offerings to the Canadian derivatives marketplace over time and acquired its current name in 1996.
- III. CDCC currently offers clearing services primarily for exchange-traded interest-rate and equity futures and options as well as for over-the-counter (“OTC”) equity options. CDCC has also begun providing certain central counterparty (“CCP”) clearing services for the fixed income market, consisting of CCP clearing services for bilaterally traded repurchase (repo) transactions on Canadian and provincial government securities among approved fixed income Clearing Members as well as providing additional CCP clearing services for cash buy or sell trades, and accepting clearing of blind trading (both repurchase transactions and cash buy or sell trades) introduced by inter-dealer brokers.
- IV. Bourse de Montréal Inc. (“MX”), CDCC’s sole shareholder, is a wholly-owned subsidiary of TMX Group Limited (“TMX Group”), a widely held public company, the common shares of which are listed on the Toronto Stock Exchange.
- V. On June 13, 2011, TMX Group (formerly known as Maple Group Acquisition Corporation) made a formal offer, as subsequently varied and extended, respecting a two-stage integrated transaction (the “Maple Acquisition”) to purchase a minimum of 70% to a maximum of 80% of the outstanding common shares (the “TMX Group Shares”) of TMX Group Inc. (the “Maple Offer”), followed by a second step consisting of a share exchange transaction pursuant to a

court-approved plan of arrangement under which the remaining TMX Group Shares (other than those held by TMX Group) were exchanged for common shares of TMX Group on a one-for-one basis (the “**Subsequent Arrangement**”). The Maple Offer was completed on August 10, 2012 and the Subsequent Arrangement was completed on September 14, 2012.

AMF Regulation:

VI. Pursuant to decision n° 8601 dated November 12, 1987 (“**SRO Recognition Order**”) issued by the *Commission des valeurs mobilières du Québec*, a predecessor to the *Autorité des marchés financiers* (“**AMF**”), CDCC was recognized as a self-regulatory organization under section 169 of *Securities Act* (Québec) (“**QSA**”), thereby enabling CDCC to carry on the activities of a clearing house in Quebec subject to the regulatory oversight of the AMF.

VII. The authority granted to CDCC under the SRO Recognition Order was continued under transitional provisions of both the *Derivatives Act* (Québec) (“**QDA**”) and the *Act respecting the Autorité des marchés financiers* (Québec) (“**AMF Act**”). Accordingly, CDCC was authorized to continue to carry on activities relating to derivatives transactions to which the QDA applies pursuant to section 230 of the QDA and to continue to carry on its activity relating to securities under section 740 of the AMF Act.

VIII. On June 28, 2011, CDCC applied to the AMF for (i) a recognition order as a clearing house under section 12 of the QDA, (ii) the revocation of the SRO Recognition Order and (iii) an exemption from obtaining recognition as a clearing house under the QSA.

IX. On May 2, 2012, pursuant to decision no 2012-PDG-0078, the AMF issued a recognition order in respect of CDCC as a clearing house under section 12 of the QDA (the “**AMF/CDCC Maple Recognition Order**”) which took effect on July 31, 2012 upon take-up of TMX Group Shares under the Maple Offer set out in the take-over bid circular dated June 10, 2011, as amended, varied and extended, which supersedes the SRO Recognition Order.

Bank of Canada Regulation:

X. Effective April 30, 2012, the Governor of the Bank of Canada designated CDCC’s clearing and settlement system, the Canadian Derivatives Clearing Service (“**CDCS**”), pursuant to subsection 4(1) of the *Payment Clearing and Settlement Act* (Canada) (the “**PCSA**”) as subject to Part I of the PCSA. As a consequence of this designation, CDCC is subject to oversight by the Bank of Canada.

XI. The Regulatory Oversight Agreement dated as of March 30, 2012, between Bank of Canada and CDCC formalizes the details of the Bank of Canada’s oversight of those aspects of CDCC and CDCC pertaining to systemic risk.

U.S. Federal and State Securities Regulation:

XII. CDCC maintains registrations with various U.S. state securities regulatory authorities to permit the sale of certain standardized options traded on MX (“**CDCC Options**”) to residents of certain states of the United States of America and the District of Columbia (“**American Residents**”). As a condition of some of these state securities registrations, CDCC is required to periodically report to the appropriate state securities regulatory authority all CDCC Options transactions during the reporting period entered into by the American Residents of the relevant state.

XIII. In the context of such dealings with American Residents, CDCC has duly filed a registration statement with the Securities and Exchange Commission (“**SEC**”) and maintains a document entitled “*The Characteristics and Risks of Listed Canadian Options*” (the “**ODD**”) in accordance with SEC Rule 9b-1 under the *Securities Exchange Act of 1934*. The most recent update to the ODD was filed with the SEC on September 28 2010. In addition, CDCC regularly

publishes Notices to Members (NTM) related to the dealings with American Residents, which specify that CDCC is authorized by regulatory authorities of various American States to sell certain standardized options traded on MX

OSC Regulation:

XIV. On March 16, 2004, the Commission granted MX an exemption, pursuant to section 147 of the Act, from recognition as a stock exchange under section 21 of the Act, and pursuant to section 80 of the *Commodity Futures Act* (the "**CFA**"), from registration as a commodity futures exchange under section 15 of the CFA, which exemption was subsequently amended on April 30, 2008 (the "**Previous MX Exemption Order**"). The Previous MX Exemption Order included regulatory oversight terms and conditions applicable to CDCC.

XV. On July 4, 2012, in response to certain applications filed by TMX Group with the Commission respecting the Maple Acquisition, the Commission granted an order recognizing TMX Group, TMX Group Inc., TSX, Alpha LP and Alpha Exchange as exchanges pursuant to Section 21 of the Act (the "**OSC/Maple Acquisition Recognition Order**"), and on July 27, 2012, the Commission revoked the Previous MX Exemption Order and issued a new order exempting MX from recognition as an exchange and from registration as a commodity futures exchange, provided that TMX Group, TMX Group Inc. and MX comply with certain terms and conditions, effective upon the completion of the Maple Offer, which occurred on August 10, 2012 (the "**OSC/MX Maple Exemption Order**").

XVI. Section 21.2(0.1) of the Act prohibits clearing agencies from carrying on business in Ontario unless they are recognized as such by the OSC.

XVII. The term "clearing agency" is defined in section 1(1) of the Act with respect to both securities and derivatives. The term "clearing agency" is defined to include in respect of securities a company such as CDCC that provides centralized facilities for the clearing of trades and other transactions in securities. The term "clearing agency" in respect of derivatives is defined to include a company such as CDCC that provides centralized facilities for the clearing and settlement of trades in derivatives that, with respect to a contract, instrument or transaction, enables each party to the contract, instrument or transaction to substitute, through novation or otherwise, the credit of the clearing agency for the credit of the parties. The term "derivative" is defined in section 1(1) of the Act to include an option, swap, futures contract, forward contract or other financial or commodity contract or instrument whose market price, value, delivery obligations, payment obligations or settlement obligations are derived from, referenced to or based on an underlying interest (including a value, price, rate, variable, index, event, probability or thing).

XVIII. On February 15, 2011, the Commission made an order, pursuant to section 147 of the Act, temporarily exempting CDCC ("**Temporary Exemption Order**") from the requirement in subsection 21.2(0.1) of the Act to be recognized as a clearing agency. On February 14, 2012, the Commission extended the Temporary Exemption Order by a variation order ("**First Variation Order**"), pursuant to Section 144 of the Act. The Temporary Exemption Order. The Commission issued subsequent orders dated February 26, 2013 (Second Variation Order), June 7, 2013 (Third Variation Order) and October 8, 2013 (Fourth Variation Order) pursuant to section 144 of the Act further varying and restating the Temporary Exemption Order, and the Fourth Variation Order will terminate on February 28, 2014 unless further extended by order of the Commission.

XIX. In Appendix A of *OSC Staff Notice 24-702 Regulatory Approach to Recognition and Exemption from Recognition of Clearing Agencies ("24-702")*, the Commission provides 13 criteria for clearing agency recognition. Below is a description of the manner in which CDCC meets each of the 13 criteria.

PART 1 GOVERNANCE STRUCTURE

1.1 *The governance structure and government arrangements of the clearing agency ensure:*

a. *effective oversight of the clearing agency;*

The governance structure and governance arrangements of CDCC have changed in connection with the Maple Acquisition, with the effect of enhancing effective oversight as follows: The Board of Directors of CDCC (the "Board") is primarily responsible for providing governance and stewardship to CDCC. It is in charge of appointing a competent executive management team to run the day-to-day operations of CDCC as well as overseeing and supervising the management of the business of CDCC by that team. The Board is also responsible for overseeing CDCC's systems of corporate governance and financial reporting and controls to ensure that CDCC reports adequate and fair financial information to its sole shareholder, MX, and engages in ethical and legal corporate conduct. As outlined in subsection (c) below, the Board is comprised of diverse membership gathering requisite expertise to provide adequate oversight of CDCC. The Board carries out its mandate directly and through the following committees of the Board (and such other committees as it appoints from time to time): the Risk and Audit Committee and the Governance Committee. The Board also established a Risk Management Advisory Committee (RMAC), the mandate of which is to provide advice and make non-binding recommendations to the Board in respect of issues which are relevant to CDCC's risk management.

The Board also seeks or obtains advice and recommendations from the Human Resources Committee established by CDCC's ultimate parent company, TMX Group. More specifically, the CDCC Board Charter specifies that the TMX Group Human Resources Committee will be consulted by the Board in respect of electing its President, and by the Chair of the Board in respect of establishing performance criteria for the President and facilitating the evaluation of such performance, establishing and managing a succession program for the President's position, and that the Chair of the Board will request the TMX Group Human Resources Committee to periodically report to the Board on its activities to the extent that they are pertinent or of interest to the Corporation.

Two Users' Groups, one for the exchange-traded activity and one for the fixed income activity, also serve as advisory committees where all Clearing Members are welcome to participate and give their views on issues directly affecting membership.

The Board meets on a quarterly basis, with ad hoc meetings when required. The Governance Committee meets at least semi-annually and the Risk and Audit Committee meets at least four times a year. The RMAC and the users' groups also meet at least four times a year.

b. *the clearing agency's activities are in keeping with its public interest mandate;*

As a central counterparty, CDCC is invested with the function of contributing to the integrity and stability of the Canadian financial markets by protecting market participants from counterparty risk (also known as default risk or credit risk). CDCC guarantees the financial obligations of every contract that it clears by interposing itself between its Clearing Members as the buyer to every seller and the seller to every buyer.

CDCC's public interest mandate is performed by applying rigorous risk management procedures designed to protect the clearing agency, its Clearing Members and indirectly, their clients, against extreme, but plausible market events. The risk management function of CDCC is essentially articulated around the following key features: (i) strict membership standards, (ii) margin requirements to cover performance, (iii) daily capital margin monitoring to ensure sufficiency of margin in regards to the financial strength of each Clearing Member, (iv) clearing fund contributions to mitigate risk by mutualizing the residual loss resulting from a Clearing Member's

default among all Clearing Members, (v) eligibility and valuation of acceptable collateral, (vi) robust default management procedures, (vii) contract adjustment process; and (viii) ongoing analysis of acceptability of underlying interests. CDCC monitors Clearing Members' activities to ensure compliance with the rules as outlined in section 4.3 of this application.

CDCC's Board is responsible for appointing, overseeing and supervising the management team and ensuring that it fulfills its public interest mandate. The Risk Management Advisory Committee assists and advises the management of CDCC on risk issues, and is entitled to give advice and make non-binding recommendations to the Board on the same issues. It is comprised of (i) at least five senior representatives of Clearing Members, (ii) at least two representatives having no relation to approved participants of MX, Clearing Members or their employees or affiliates, (iii) one representative of MX, and (iv) one representative of CDCC, with one observer of each of the following entities: the Investment Industry Regulatory Organization of Canada, the Regulatory Division of MX, the AMF and the Bank of Canada.

In the past, CDCC's risk management framework formed part of the broader TMX Group Enterprise Risk Management (ERM) Framework. Under such construct, the CDCC Board was charged with the review of the CDCC financial risk model. The overall governance of the Enterprise framework that CDCC contributed to was folded into the TMX Group Finance and Audit Committee. At the request of the Bank of Canada, CDCC is currently working towards the development of its own independent ERM framework. Leveraging off the TMX Group's ERM, CDCC has drafted several key components as delineated within the CPSS-IOSCO Principles for Financial Marketplace Infrastructures (PFMIs). Furthermore, CDCC has started to engage external auditors to ensure that its ERM/Operational Risk Management (ORM) framework are indeed audited. Lastly, CDCC has also started to populate an internal tool that will contain all of the PFMI process owners - including ERM - to allow for an effective control in an annual self-assessment exercise. CDCC expects to continue to report on risk methodologies and exposures to the RMAC and subsequently to the Board, now through the Risk and Audit Committee of CDCC.

Internal risk management at CDCC is responsible for the implementation and monitoring of the current risk framework as articulated within CDCC published Rules and Manuals, and in accordance with the ERM framework currently being developed, as mentioned in the previous paragraph. The risk management group reports into the President and Chief Clearing Officer of CDCC. The internal audit function is performed at the TMX Group level and has the responsibility to ensure that all business processes defined by CDCC to accomplish risk and operations related tasks meet the required objectives while respecting the corporate control objectives. The CDCC Board is responsible for the ultimate approval of the risk models and framework implemented at CDCC to manage market, credit and liquidity risks but relies on the RMAC in an advisory capacity for items related to technical risk management matters.

c. *fair, meaningful and diverse representation on the governing body and any committees of the board, including a reasonable proportion of independent directors;*

The composition of the Board ensures fair, meaningful and diverse representation by being set up as follows, pursuant to the Maple Acquisition:

- (i) such number of directors who are independent directors and represent at least 33% of the total number of directors nominated for election for that year; whereby an "independent director" means a person who is not:

- (A) an associate, partner, director, officer or employee of a Significant Maple Shareholder¹;
 - (B) an associate, partner, director, officer or employee of a member of CDCC or such member's affiliates or an associate of such partner, director, officer or employee;
 - (C) an associate, partner, director, officer or employee of a marketplace that clears through CDCC or such marketplace's affiliates or an associate of such partner, director, officer or employee; or
 - (D) an officer or employee of CDCC or its affiliates or an associate of such officer or employee.
- (ii) such number of directors who (A) are an associate, partner, director, officer or employee of a Clearing Member of CDCC or such member's affiliates, (B) possess expertise in derivatives clearing, and (C) are financially literate within the meaning of National Instrument 52-110, and represent at least 33% of the total number of directors nominated for election for that year, and of these directors:
- (A) one director who is the chief executive officer of MX, or such other officer or employee of MX as nominated by MX; notwithstanding that such person is not an associate, partner, director, officer or employee of a Clearing Member of CDCC or such member's affiliates; and
 - (B) two of these directors who are not, at the time of appointment or election, an associate, partner, director, officer or employee of a Significant Maple Shareholder and are Unrelated to Original Maple Shareholders² for so long as a Maple Nomination Agreement³ is in effect;
- (iii) the chief executive officer of CDCC;
- (iv) such number of directors who are resident of the Province of Québec under the Taxation Act, R.S.Q., c. I-3 and represent at least 25% of the total number of directors nominated for election; and
- (v) such number of directors who have expertise in derivatives clearing and represent at least 50% of the total number of directors nominated for election.

Quorum at any meeting of the Board is a majority of directors, as specified in article 3.01 of CDCC's By-Laws. The Chairperson of the Board is appointed by the Board, in accordance with article 4.01 of CDCC's By-Laws, and shall preside at all meetings of the Board and shareholders, as well as be ex officio a member of any committee authorized by the Board, as specified in article 4.02 of CDCC's By-Laws. The Chairperson is elected among the independent directors of the Board, as specified in article 8 of the Board Charter.

¹ "Significant Maple Shareholder" shall have the meaning ascribed in Schedule 2 of the OSC/Maple Acquisition Recognition Order.

² "Original Maple Shareholders" shall have the meaning ascribed in Schedule 2 of the OSC/Maple Acquisition Recognition Order.

³ "Maple nomination agreement" shall have the meaning ascribed in Schedule 2 of the OSC/Maple Acquisition Recognition Order.

As for representation on the Board Committees, the Governance Committee is composed of a minimum of four (4) directors, a majority of which are independent directors, and the Risk and Audit Committee is composed of one independent director, two industry directors that are not associates, partners, directors, officers or employees of a Significant Maple Shareholder, and two members that are nominees of TMX Group.

d. a proper balance among the interests of the owners and the different entities seeking access (participants) to the clearing, settlement and depository services and facilities of the clearing agency;

CDCC's governance structure provides proper balance among the interests of its sole shareholder, MX, and the industry participants through their respective representation on the Board and on the Board Committees as set forth above. Also, market participant advisory committees (also known as Users' Groups) are part of the governance scheme of CDCC, giving Clearing Members the opportunity to provide advice and non-binding recommendations to the Board in respect of issues relevant to CDCC and affecting membership. Participation on such committees is open to all Clearing Members and meetings are held on a quarterly basis.

The Governance Committee is responsible for reviewing and making recommendations to the Board respecting, among other things, the organization and responsibilities of such advisory committees. CDCC is required to annually provide to its regulators the recommendations made by its market participant advisory committees and explains the underlying grounds for the rejection of a recommendation or the partial or amended implementation of a recommendation of these committees.

e. the clearing agency has policies and procedures to appropriately identify and manage conflicts of interest;

Article 3.12 of CDCC's By-Laws provides that "a director or officer who is a party to, or who is a director or officer of or has a material interest in any person who is a party to, a material contract or proposed material contract with the Corporation shall disclose the nature and extent of his/her interest at the time and in the manner provided by the Act."

The Board Code of Conduct also contains specific policies and procedures in respect of conflicts of interest. The purpose of the Board Code of Conduct is to foster a climate of honesty, truthfulness and integrity to ensure CDCC upholds ethical standards in all its corporate activities. The Governance Committee is responsible for setting the standards of business conduct contained in the Board Code of Conduct. The matters that are covered in the Board of Conduct are (i) the directors' obligations to act honestly and in good faith with a view to the best interests of the company, exercise care, diligence and skill, exercise his/her powers for the purpose they were intended, ensure he/she is not in conflict of interest or otherwise receive personal gain by acting as director, and exercise his/her mandate having regard to the public interest mandate of the company; (ii) each director's duty to deal fairly with CDCC's shareholder, Clearing Members, suppliers, competitors and employees; (iii) each director's duty to protect CDCC's confidential information; (iv) each director's disclosure obligations in respect of any breach of confidentiality and in respect of any conflict of interest whether direct or indirect, real or potential, between him/herself and CDCC, and between CDCC and other entities of TMX Group; (v) partition measures between MX and CDCC; (vi) waivers; and (vii) violations.

All the employees and consultants of CDCC are required to comply with the Employee Code of Conduct, which contains provisions on conflicts of interest, under its section 3.2, and specifically covers (i) conflicts related to files, (ii) gifts and entertainment, (iii) interests in other businesses, (iv) outside employment, (v) partition measures between MX and Regulatory Division, (vi) partition measures between MX and CDCC. Such partition measures essentially consist in having offices of MX and those of CDCC kept totally distinct and separated physically, restricting access to files of CDCC to employees of CDCC, confidentiality obligations being imposed to any employee of CDCC moving to another TMX Group entity, with such employee's manager meeting

with the employee to advise the employee of its confidentiality obligations. All employees and consultants of CDCC annually renew their promise to honor the Employee Code of Conduct by responding to a questionnaire and signing a declaration in respect of such code.

The Governance Committee is also responsible for overseeing policies and procedures for the identification and resolution of conflicts of interest. It is also part of its mandate to confirm that processes are in place to ensure compliance with the Employee Code of Conduct and the Board Code of Conduct.

- f. each director and officer of the clearing agency, and each person or company that owns or controls, directly or indirectly, more than 10 percent of the clearing agency, is a fit and proper person;***

CDCC takes reasonable steps to ensure that each director and officer of CDCC is a fit and proper person, and that the past conduct of each director and officer affords reasonable grounds for believing that he or she will perform his or her duties with integrity. For your information, all new directors and officers are required to complete the personal information form (PIF), which is then provided to the Senior Manager Investigative Research at TSX who completes the screening process to ensure there are no areas of concern. In addition, directors of CDCC complete an annual questionnaire which confirms their derivatives clearing expertise. They are also required to complete an annual peer and self-evaluation survey.

The Governance Committee provides the Board with recommendations relating to corporate governance generally, including the Board size and composition, the candidate selection process and orientation of new members. Among other duties, the Governance Committee reviews and makes recommendations to the Board respecting the long-term plan for the composition of the Board that takes into consideration the current strengths, skills and experience on the Board and the strategic direction of CDCC. It also reviews, approves and reports to the Board on the performance of individual directors, the Board as a whole and Board Committees.

- g. there are appropriate qualification, limitation of liability and indemnity provisions for directors and officers of the clearing agency.***

Article Three of the CDCC By-laws sets the standards applicable to directors, with 3.02 addressing qualifications as follows: No person shall be qualified as a director if he/she is less than 18 years of age; if he/she is of unsound mind and has been so found by a court in Canada or elsewhere; if he/she is not an individual; or if he/she has the status of a bankrupt. A director need not be a shareholder. A majority of the directors shall be resident Canadians, and at least two directors shall be officers or employees of CDCC or its affiliates.

Article Five of CDCC By-laws covers the protection of directors, officers, employees and committee members, with 5.01 addressing limitation of liability, 5.02 addressing indemnity, and 5.03 addressing insurance.

PART 2 FEES

- 2.1 All fees imposed by the clearing agency are equitably allocated. The fees do not have the effect of creating unreasonable barriers to access.***

The list of fees of CDCC is publicly available and any updates thereto are communicated via NTM posted on the website of CDCC. Fees are typically applicable on a per contract - per side basis, which ensures that clearing costs are reflective of each Clearing Member's specific activities, according to the product types and volumes that it clears. Data service costs and connectivity charges are invoiced monthly and included in standard Clearing Member charges. For the fixed income CCP services, CDCC includes a Minimum Activity Charge (MAC) which assures a minimum level of clearing revenue even if a particular Clearing Member's transactional activity drops below a threshold. In addition, CDCC has introduced a rebating mechanism for

fixed income Clearing Members that involves a return of clearing revenues, on a pro rata basis, if total clearing volumes reach specific thresholds over a calendar year.

With regards to cost recovery, CDCC charges back to users of its fixed income services three distinct costs that it incurs in operating its business:

- 1) CDS settlement charges (charged back to the relevant Clearing Member involved in a settlement against CDCC) are recovered on a monthly basis;
- 2) CDCC's daylight costs which are incurred in the settlement process are pro rated and charged back across all sellers during an invoicing period (quarterly); and
- 3) CDCC overnight repurchase line costs which are incurred by CDCC in meeting its liquidity requirements are pro rated and charged back across all buyers during an invoicing period (quarterly).

A detailed listing of clearing fees and cost recovery items can be found on the CDCC website.

CDCC benchmarks the fees for its various products against relevant domestic and international counterparts. The purpose of the benchmarking exercise is to compare actual and proposed fees with comparable products and services on domestic and international basis.

2.2 *The process for setting fees is fair and appropriate, and the fee model is transparent.*

CDCC annually reviews its fee structure to ensure that the fees to participants are fair and reasonable and that the collected fees provide sufficient resources to ensure that CDCC has adequate resources to effectively manage the operations of the organization and to continue to invest in the upgrading and maintenance of its infrastructure.

CDCC's fees are reviewed and if required revised by the management team via a presentation to the Board for approval. CDCC's Board approval process includes the publication of a Notice to Members to inform interested parties.

The fee model is transparent and any update thereto is filed with the regulatory authorities and provided to Clearing Members by notice before the change becomes effective. The list of fees of CDCC is typically issued in October / November with an activation date of January 1.

PART 3 ACCESS

3.1 *The clearing agency has appropriate written standards for access to its services.*

The standards for access to CDCC's services are set forth in the CDCC Rules. Rule A-1A (Membership in the Corporation) establishes the eligibility criteria, the standards of membership and the admission procedure that each applicant is subject to in order to become and remain a Clearing Member. To be eligible, the applicant must be member of a recognized exchange in Canada or a bank to which the Bank Act applies. To submit products that settle through CDS Clearing and Depository Services Inc. (CDS)'s CDSX application, the applicant must be a participant of CDS or have an agency agreement with a participant of CDS. Rule A-2 (Miscellaneous Requirements) supplements the access standards with general and operational conditions that the Clearing Members must also meet.

Rule A-3 (Capital Requirements) establishes minimum capital requirements for its Clearing Members. The minimum capital required of Clearing Members is as set forth by the Investment Industry Regulatory Organization of Canada for SRO Clearing Members (equivalent to \$250,000) and as set forth by the Office of the Superintendent of Financial Institutions for Bank Clearing Members (equivalent to an asset-capital multiplier, leverage ratio, of 12.5). More stringent capital requirements have been set for the clearing of fixed income transactions, as follows: \$50,000,000 for primary dealers of government securities and \$100,000,000 for other Clearing Members if they submit transactions for clearing for their own account and on behalf of their affiliates only; and \$200,000,000 if they submit transactions on behalf of non affiliated clients.

The CDCC Rules are published on CDCC's website and any changes thereto are subject to the self-certification process in accordance with the Derivatives Regulation (Québec) ("QDR") which includes, subject to the exceptions prescribed by the QDR, prior notice of changes to Clearing Members and publication for a 30 day comment period in the AMF's bulletin. As a consequence of CDCC being designated by the Bank of Canada as a clearing and settlement system subject to Part I of the PCSA, CDCC is also subject to the regulatory oversight of the Bank of Canada, which implies that any significant change by CDCC is subject to the Bank of Canada's approval.

3.2 The access standards and the process for obtaining, limiting and denying access are fair and transparent. A clearing agency keeps records of

- (a) each grant of access including, for each participant, the reasons for granting such access, and**
- (b) each denial or limitation of access, including the reasons for denying or limiting access to an applicant.**

Any entity that signs the CDCC application for membership, meets the criteria set forth in Rules A-1A and A-3 and makes the required contributions to the CDCC clearing fund, as set forth in Rule A-6, is granted access by CDCC to the relevant clearing services.

Such access criteria are objective and represent reasonable standards that every applicant must follow to use its clearing services. These standards facilitate, in a transparent manner, access to the financial market and fair and equitable competition among participants.

CDCC maintains records on each Clearing Member granted access to its services that include the reasons for granting such access. CDCC also keeps records of each denial or limitation of access, including the reasons for denying or limiting access to an applicant.

PART 4 RULES AND RULEMAKING

4.1 The clearing agency's rules are designed to govern all aspects of the settlement services offered by the clearing agency, and

- (a) are not inconsistent with securities legislation,**
- (b) do not permit unreasonable discrimination among participants, and**
- (c) do not impose any burden on competition that is not necessary or appropriate.**

CDCC's application for membership, when completed by a Clearing Member candidate and accepted by CDCC, forms the Membership Agreement together with the CDCC Rules which are comprised of the rules, the operations manual, the risk manual and the default manual of CDCC, all incorporated by reference in the Membership Agreement. The CDCC Rules cover all aspects of the clearing services offered by CDCC, are governed by and construed in accordance with the laws of the province of Québec and the federal laws of Canada applicable therein, and are consistent with relevant securities and derivatives legislation in all jurisdictions in which CDCC carries on business. The CDCC Rules are publicly available and they ensure reasonable and equal treatment among Clearing Members and promote a fair and competitive environment.

4.2 The clearing agency's rules and the process for adopting new rules or amending existing rules should be transparent to participants and the general public.

CDCC's rule adoption and rule amendments are made in accordance with the relevant sections of the QDR. Additionally, Section A-211 of the CDCC Rules specifies that CDCC shall, subject to the exceptions prescribed in that section, provide the text of any proposed rule change and a statement of its purpose and effect on Clearing Members to each Clearing Member. The rule change publication on CDCC's website and in the AMF's bulletin is also governed by applicable self-certification procedures of the QDR and by the Bank of Canada significant change approval process in accordance with the Regulatory Oversight Agreement, as described in Part 3 above.

4.3 The clearing agency monitors participant activities to ensure compliance with the rules.

CDCC's operational group (Member Services) monitors all asset and margin requirement activity of the Clearing Members. CDCC ensures that the Clearing Members meet all margin calls and overnight settlements. All of these monitoring activities are contained within CDCC's CSAE Internal Audit Program. The following are the current "Controls" within the CSAE 3416 Audit Program:

1. Trading: Transactions are recorded completely, timely and accurately in the Clearing Members' accounts;
2. Maintenance & Exercise: Future and options contracts are maintained and exercised in accordance with the Clearing Members' authorized instructions and in accordance with CDCC Rules;
3. Assignment: Futures and options contracts are assigned in accordance with CDCC Rules;
4. Mark to Market: Controls provide reasonable assurance that mark to market of Clearing Members' future positions are accurately calculated and recorded on CDCC records;
5. Margin Requirements: Margin requirements are calculated in accordance with CDCC Rules with the following essential features:
 - a. Base margins are computed with the SPAN margining sub-system that was developed by the Chicago Mercantile Exchange (CME) based on margin interval calculated as the maximum volatility over 20, 90, 260 days, and a 2-day liquidation period,
 - b. Daily capital margin monitoring (DCMM) requirements are computed from the difference between the NAA (Net Allowable Asset) and the base margin (as defined in a.),
 - c. Clearing fund requirement is a function of the member prorated uncovered residual risk;
6. Deposit Requirement: Margin and clearing fund deposit requirements for Clearing Members are accurately calculated and recorded on CDCC records;
7. Deposit Safeguard: Margin and clearing fund deposits lodged with CDCC are adequately safeguarded and only released when authorized and approved.

To facilitate CDCC's ability to accomplish the above internal audit controls, many automated as well as some manual processes have been implemented.

For example, in respect of the assignment process (Control 3 above), Section B-305 of CDCC Rules states that Options assignments are random in blocks of ten (10) contracts. CDCC runs the assignment process 10 times for the auditing firm to validate that this occurs. Another example of a manual process is in respect of the deposit requirement (Control 6 above). CDCC manually reconciles the clearing application to the deposits within its bank account and the central securities depository. CDCC's auditing firm reviews numerous days, on a random basis, to validate that the process is correctly performed.

4.4 The rules set out appropriate sanctions in the event of non-compliance by participants.

In the event that a Clearing Member becomes non-conforming as set forth in Section A-1A04 of the CDCC Rules, a Clearing Member may be suspended by the Board and its membership may be terminated. Rule A-4 (Enforcement) provides for the remedies that CDCC may take against a

non-conforming Clearing Member and Rule A-5 (Disciplinary Proceedings) establishes other sanctions that CDCC may apply against a non-conforming member. The Operations Manual, which is an integral part of the CDCC Rules, also sets forth certain fines applicable for late payments to discourage Clearing Members from such behaviour. The Default Manual, which is part of the Operations Manual, provides additional details in respect of processes and procedures that CDCC applies in managing a default situation.

The primary purpose of the Default Manual is to:

- 1) Describe the governance process that the CDCC needs to adhere to in the management of a Clearing Member default;
- 2) Enumerate the actions that may be taken through the course of Default Management;
- 3) Describe the financial resources that may be employed; and
- 4) Describe the responsibilities of non-defaulting Clearing Members throughout this process.

PART 5 DUE PROCESS

5.1 For any decision made by the clearing agency that affects an applicant or a participant, including a decision in relation to access, the clearing agency ensures that:

- (a) applicant or a participant is given an opportunity to be heard or make representations; and**
- (b) the clearing agency keeps a record of, gives reasons for, and provides for appeals or reviews of, its decisions.**

Applicants who are denied Clearing Member status are afforded the opportunity to be heard and to present evidence. An applicant whose application is not approved by the Board may also avail itself of any right of appeal provided by applicable law.

CDCC also has a hearing procedure with respect to suspension and termination of membership. Pursuant to Section A-1A07 of the CDCC Rules, a Clearing Member who is suspended receives a written statement of the grounds thereof and has the right to appeal such suspension, with an opportunity to be heard and present evidence on its own behalf. After the hearing, the appellant is given a written statement of the decision. Again, a Clearing Member whose suspension is affirmed by the Board may avail itself of any right of appeal provided by applicable law. Pursuant to Section A-1A08 of the CDCC Rules, at the meeting following the suspension of a member, or the affirmation by the Board thereof, the Board will consider whether to lift the suspension or terminate the membership of the suspended Clearing Member. On such occasion, the Clearing Member is given prior written notice of the meeting and is afforded the opportunity to be heard by the Board.

With respect to disciplinary proceedings, CDCC also provides Clearing Members with the right to be heard prior to imposing penalties (except for late payment fines) for any breach under the CDCC Rules. A written statement of the Board's decision is furnished to the Clearing Member. Such decision is final, conclusive and binding on the Clearing Member, subject to its right of appeal provided by applicable law.

PART 6 RISK MANAGEMENT

- 6.1 The clearing agency's settlement services are designed to minimize systemic risk.**
- 6.2 The clearing agency has appropriate risk management policies and procedures and internal controls in place.**
- 6.3 Without limiting the generality of the foregoing, the clearing agency's services or functions are designed to achieve the following objectives:**
 - 1. Where the clearing agency acts as a central counterparty, it rigorously controls the risks it assumes.**
 - 2. The clearing agency minimizes principal risk by linking securities transfers to funds transfers in a way that achieves delivery versus payment.**

3. ***Final settlement occurs no later than the end of the settlement day. Intraday or real-time finality is provided where necessary to reduce risks.***
 4. ***Where the clearing agency extends intraday credit to participants, including a clearing agency that operates net settlement systems, it institutes risk controls that, at a minimum, ensure timely settlement in the event that the participant with the largest payment obligation is unable to settle.***
 5. ***Assets used to settle the ultimate payment obligations arising from securities transactions carry little or no credit or liquidity risk. If central bank money is not used, steps are to be taken to protect participants in settlement services from potential losses and liquidity pressures arising from the failure of the cash settlement agent whose assets are used for that purpose.***
 6. ***If the clearing agency establishes links to settle cross-border trades, it designs and operates such links to reduce effectively the risks associated with cross-border settlements.***
- 6.4 ***The clearing agency engaging in activities not related to settlement services carries on such activities in a manner that prevents the spillover of risk to the clearing agency that might affect its financial viability or negatively impact any of the participants in the settlement service.***

As a CCP, CDCC's role in the financial markets is to mitigate counterparty credit risk by interposing itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the performance of open contracts..

As prescribed in its Risk Manual, an integral part of the CDCC Rules, CDCC applies rigorous risk management procedures designed to protect itself, its Clearing Members and indirectly, their clients, against extreme, but plausible market events. The most important aspects of CDCC's risk management procedures are: (i) maintaining rigorous membership standards (as described in Part 3 (Access) above), (ii) properly assessing market exposure and requiring appropriate margin to cover such exposure from its Clearing Members, (iii) closely monitoring the capital margin ratio of each Clearing Member, (iv) collecting and holding adequate levels of clearing fund contributions from its Clearing Members, (v) accepting only highly liquid assets as collateral, and (vi) having a robust default management process in place.

CDCC's default management process can be summarized along the following lines:

- 1) Transparent governance process with clear default triggers enumerated within the CDCC Rules;
- 2) A formalized communications strategy between CDCC and its relevant stakeholders (trading venues, FMIs, regulators, liquidity providers and surviving Clearing Members);
- 3) A liquidity management strategy to ensure same day settlement of CDCC obligations to surviving Clearing Members through its commercial bank arrangements;
- 4) Collateral seizure and conversion into cash;
- 5) A structured auction process with its surviving Clearing Members to novate outstanding positions to auction participants;
- 6) The ability to conduct open market operations to either close-out and/or hedge positions that were not allotted during the auction process; and
- 7) A transparent default waterfall that allocates losses in excess of a non-conforming Clearing Member's collateral.

In prior years, CDCC conducted its annual default management simulation in isolation so as to ensure that its internal processes and procedures were understood and followed by staff that would participate in the default management process. This typically entailed choosing a Clearing Member that would simulate the defaulter and would include communications to CDCC Board

members. The capacity to prepare position reports and subsequent position transfers were included in the scope of the simulation.

In future simulations, CDCC fully anticipates including Clearing Members as well as other stakeholders such as FMIs in the process. In the context of CDS, CDS will be participating in future simulations on multiple fronts:

- 1) Ensuring that the communication is timely and that the appropriate individuals are contacted at CDS so as to ensure that decisions made by CDCC, or CDS, do not adversely impact the other firms' processes (in the case of a common participant default);
- 2) Simulating the process whereby a Clearing Member's SNS capability is disabled;
- 3) Facilitating the seizure of USD denominated collateral via the Northbound link; and
- 4) Facilitating the adjustment of outstanding settlement instruction to ensure that these instructions reflect either the replacement counterparty's CUID or that of CDCC.

The risk department of CDCC calculates market exposures twice per day on an intra-day basis and once during end-of-day processes. These margin requirements are calculated separately for client, firm and multi-purpose accounts of each Clearing Member by the SPAN® software⁴. CDCC measures its credit exposures to its Clearing Members on a daily basis through the daily capital margin ratio monitoring.

The management of financial risk at CDCC begins with a careful consideration of acceptability. This concept covers potential new Clearing Members (membership standards), collateral (including types and concentration) and product features.

Counterparty credit risk to active Clearing Members is measured and mitigated through various forms of margin: (a) the margin fund which is constituted of initial and variation margin to protect against replacement cost risk in the event of a default, (b) the difference fund which is implemented to cover very specific forms of risk such as high degrees of leverage, failed physical settlements and credit risk specific to the OTC derivatives business line, and (c) the clearing fund which is in place as a mitigant to a default occurring at the same moment as a stressed market event. The clearing fund, through its mutualisation feature is also a key mitigant of systemic risk.

Liquidity risk is managed through a careful calibration of the collateral policy as well as commercial bank liquidity lines. CDCC's liquidity exposures are reviewed on a quarterly/annual basis and are communicated to the CDCC Board.

Finally, CDCC has a capital amount of five million dollars which is committed to the default management waterfall and is applied to a suffered loss prior to clearing fund assets of Clearing Members that are not non-conforming.

Stress testing at CDCC is performed on a daily basis where 18 market events are simulated on actual Clearing Member positions. These results form part of the RMAC package and are augmented by more elaborate scenario analysis that couple extreme market events with multiple defaults and liquidity events. The purpose is to compare results to CDCC's available financial resources and highlight any shortcomings in the overall financial risk model.

CDCC's Backtesting program is also reviewed on a daily basis and is comprised of both product-level and portfolio-level backtests. The product-level backtesting provides insight into the statistical correctness of margin at the product-level whereas the portfolio-level backtesting is a tool that allows CDCC to highlight any credit exposures present at the portfolio-level. In both

⁴ SPAN® is used in the cash market service in much the same way as it is used in all other services where margining is implemented. SPAN® is provided position information by Clearing Member as well as the necessary market and risk data. SPAN® is then able to compute the appropriate initial margin on a portfolio basis by Clearing Member. SPAN® is also used to generate the stress scenarios that CDCC employs in its stress testing program, which includes cash market instruments.

cases, CDCC has specific tolerances for model failure as well as the associated actions that staff must take further to model failure. This is described in CDCC's risk governance framework.

The RMAC provides advice and makes non-binding recommendations to the Board in respect of risk management issues which are relevant to CDCC. It is chaired by one of the representatives of the Clearing Member firms of CDCC or by one of the members having no relation to approved participants of MX, Clearing Member firms of CDCC or their employees or affiliates. Members of RMAC must have a requisite level of expertise and must be familiar with the risk management objectives of clearing agencies that settle and guarantee derivative instruments.

CDCC has a link with CDS and with the Depository Trust & Clearing Corporation ("DTCC"), the central securities depository in the US, for the purpose of allowing its Clearing Members to pledge securities to meet the margin requirements that CDCC requires. In addition, the link to CDS also involves the transmission of transactional information in the fixed income marketplace. CDCC has entered into a Memorandum of Understanding (MOU) with CDS regarding the interplay between the two entities in the context of CDCC's CCP service for fixed income transactions. One of the key components of this MOU is the IIAC Business Requirements Document (BRD). This document describes the flow of transactions from the Clearing Members (CDS Participants) through CDSX to CDS. DVP settlement is effected on CDSX with CDCC being on one side of all the cleared transactions in its capacity as the CCP and a participant of CDS. The CDS Participant Agreement and the CDS Participant Rules govern settlements within CDSX.

The risks that CDCC incurs through these links are legal and operational in nature. In order to manage the legal risks associated with the collateral pledges, electronic pledges must be received from Clearing Members in favour of CDCC through the central securities depository. There is an exception to this in the case of a Clearing Member that has entered into an agency agreement appointing a participant of the central securities depository as its agent to perform this task on its behalf. The operational risks incurred are managed through an electronic process (a CDCC / TMX Technologies developed application) that ensures conformity and reconciliation of transactional data between CDCC, CDS and Clearing Members. Pledged collateral is recorded within the CDCC clearing application and is priced three times per day to ensure sufficiency vis-à-vis the margin requirements for each Clearing Member. As an alternative to meeting margin requirements, CDCC accepts put escrow receipts and underlying interest deposits through approved depositories. Approved depositories are subject to an annual review of their financial capacity notwithstanding that the operating model with such depositories ensures that CDCC has access to such specific deposits even in the event of a failure of the depository. CDCC requires a contract (Depository Agreement) be signed between itself and an institution that wishes to become an Approved Depository. The form of this agreement is included within CDCC's Operations Manual. CDCC informs its Clearing Members of which institutions are accepted as Approved Depositories by the issuance of a Notice to Members (NTM). On the date of this application, the most current NTM on this subject was NTM 2013-140 (published on May 23, 2013). CDCC identifies seven (7) Approved Depositories. CDCC submits settlement instructions to CDS for the delivery of equities under option positions and for the delivery of bonds for futures and for fixed income transactions. These are processed on a delivery versus payment basis, thereby minimizing credit risk. In respect of fixed income transactions that have a settlement date on the date that they are submitted to CDCC for clearing, settlement is due on a gross basis immediately after novation occurs; whereas for fixed income transactions with a settlement date on a forward date, settlement is due on a net basis at the acceptable security level at the settlement time on such date in accordance with the central securities depository rules. However, there are two intra-day netting cycles on each business day: (i) between 10:00 and 10:15 a.m., CDCC issues net morning settlement requirements to all net buyers of a security that have a pending payment against delivery requirement if CDCC has already settled with the sellers of the relevant security, which buyers have to meet before 10:30 a.m., and (ii) between 2:00 and 2:15 p.m., CDCC issues net afternoon settlement requirements to all net buyers and net sellers of all securities for settlement by 4:00 p.m. It should be noted that the netting processes can include deliveries for futures contracts during bond delivery periods. Clearing members have an obligation of up to \$600,000,000 or the total of their settlement obligation to CDCC, whichever is

less, for the morning netting cycle. This is necessary so as to mitigate the liquidity risk that CDCC could be exposed to if the buyers (receivers of securities) are not in a position to settle their payment obligations when CDCC has the securities available in its securities account at CDS to be delivered.

Net payments for overnight settlement (mark-to-market, premiums, margin shortfalls, etc.) owed by the Clearing Members are to be made to CDCC by 7:45 a.m. the next business day. If CDCC issues an intraday margin call, the Clearing Member has one hour from notification to meet the collateral requirement. CDCC does not otherwise extend intraday credit to its Clearing Members.

Assets used to cover settlement obligations carry little or no credit or liquidity risk. Only highly liquid types of collateral are eligible: clearing fund contributions may only consist of cash and/or one year Government of Canada treasury bills, and margin deposits must consist of cash and/or one year Government of Canada treasury bills for at least 2/3 of the requirement, while the rest may consist of other government securities and securities listed on recognized Canadian exchanges (known as valued securities) deemed acceptable for CDCC. Valued securities are valued at 50% of their market value, which is the standard haircut for equities applied by CDCC to equities transferred to cover margin requirements, and a Clearing Member cannot cover more than 15% of its margin requirement across all its accounts with valued securities and not more than 10% with a single valued security, which are standard concentration limits applied by CDCC to equities. Currently, tracking eligible collateral is a manual process that is done by CDCC's operational group (Member Services) three times a day via a spreadsheet and when a Clearing Member performs a deposit or withdrawal of collateral. CDCC has committed to the Bank of Canada to automate this process within CDS.

In the event that a Clearing Member defaults on its obligations to CDCC, the other Clearing Members' exposures are limited in the following manner: CDCC would use the defaulting Clearing Member's margin deposit and clearing fund contribution to offset any loss incurred as a result of unwinding its positions. If such funds were insufficient to cover the loss, CDCC would apply up to five million dollars of its own capital resources set aside for that purpose. If this was still insufficient, the surviving Clearing Members' contributions to the clearing fund would be used. CDCC could then require all Clearing Members to replenish the clearing fund once to fully cover the loss. Accordingly, the risk incurred by any surviving Clearing Member is limited to twice the size of its clearing fund contribution. CDCC also has the following liquidity facilities in place to limit the impact of a Clearing Member default:

1. Two daylight loan facilities available through CDS; one with Royal Bank of Canada as extender of credit for \$300 million and the other with Bank of Montreal as extender of credit for \$400 million;
2. A credit facility of \$200million with six commercial banks as lenders, Royal Bank of Canada acting as administrative agent thereof. The size of this facility was determined by imposing a "cover 1 + affiliates" requirement on the derivatives business line; and
3. An overnight repurchase facility of \$12.3billion; \$1.2 billion committed and \$11.1 billion uncommitted with six commercial banks as buyers. This facility was sized to ensure that CDCC has sufficient resources to manage the default of its largest Clearing Member, including its affiliates to which it has liquidity risk.

PART 7 SYSTEMS AND TECHNOLOGY

7.1 For its settlement services systems, the clearing agency:

- (a) **develops and maintains,**
 - (i) **reasonable business continuity and disaster recovery plans,**
 - (ii) **an adequate systems of internal control,**
 - (iii) **adequate information technology general controls, including controls relating to information systems operations, information**

- security, change management, problem management, network support, and system software support;**
- (b) on a reasonably frequent basis, and in any event, at least annually, and in a manner that is consistent with prudent business practice,**
- (i) makes reasonable current and future capacity estimates,**
- (ii) conducts capacity stress tests to determine the ability of those systems to process transactions in an accurate, timely and efficient manner,**
- (iii) tests its business continuity and disaster recovery plans; and**
- (c) promptly notifies the regulator of any material systems failures.**
- 7.2 The clearing agency annually engages a qualified party to conduct an independent systems review and prepare a report in accordance with established audit standards regarding its compliance with section 7.1(a).**

CDCC has developed and implemented an extensive set of internal controls contained within CDCC's CSAE Internal Audit Program, as described above in Part 4, under 4.3. The role of the CSAE internal audit function, which is under the control of the management team of CDCC, is to ensure that such controls allow CDCC to adequately and efficiently accomplish its tasks of clearinghouse and central counterparty, in providing support to its Clearing Members in the trading, assignment and execution of exchange-traded and over-the-counter derivative contracts, in the margin and collateral processes, in the settlement and clearing, and in the IT processes involved. These internal controls are reviewed and reported on annually by external auditors in accordance with applicable standards. CDCC's formal audit report is submitted to the AMF, and to the Commission concurrently.

In addition, to ensure the internal controls meet the requirements included in National Instrument 21-101 for Marketplace Operation, CDCC's clearing system is part of MX's audit of its IT systems. These controls cover the following topics: Availability management, Facilities management, Change management, Disaster recovery, Incident management, IT security, Capacity and performance management, Problem management, Production management, Project delivery, and Project initiation. The independent auditor issues a "Report on controls placed in operations and test of operating effectiveness" (CICA section 5025).

CDCC organizationally segregated duties between the following principal areas:

- Member Services: Clearing Member support, internal corporate operations, audit processes and business recovery/ continuity services;
- Risk Management: Management of the Corporation's risk and enhancement of these processes;
- Business Development: Management of the Corporation's research into new business opportunities;
- Information Technology (outsourced to TMX Technologies): Network management, facilities management, communications, systems security; and
- Finances (outsourced to TMX Finance and Administration): general accounting (payable, billing, cash management, financial statements);
- Legal (shared service basis): review and negotiation of contracts, management of regulatory affairs, compliance and rule changes.

In respect of dual authorization processes and limitation of functions to specific employees, TMX Group and its subsidiaries must follow the following policies:

- Contract Authorization Policy
- Expenditure Authorization Policy
- Employee Code of Conduct.

Internal audit procedures and processes are documented as follows:

- CDCC management personnel are responsible for reviewing daily, weekly and monthly a set of "Internal Control Checklists" and reports designed to assist them in evaluating the soundness, adequacy and application of operating controls and determining the extent of compliance with established policies, plans, procedures, law and regulations to which CDCC is subject.
- In addition, TMX Group and its subsidiaries must follow the Corporate Security Principles and the Fraud Policy.

CDCC's clearing application system, known as SOLA® Clearing, runs on servers in multiple locations. The software is scalable and the functionality to switch the production server from one piece of hardware to another is automated. The primary location and the backup site have two servers each; all four servers are real-time mirrors of each other. CDCC's primary data center is in Markham, Ontario and the secondary data center is in downtown Toronto, approximately 20 kilometers away from each other. Controls have been implemented to validate security protocols and to ensure that CDCC can identify the need to upgrade its hardware when needed.

CDCC's clearing application provides a series of processes that ensure the integrity of messages received. Data integrity is ensured through the use of protocols as well as internal, real time business validations. For internal communications, the system relies on a proprietary messaging middleware, the SOLA® Routing Engine, also known as Fast Message Router (FMR). All the system's components communicate through this FMR, running in hot primary - hot secondary mode, which allows it to guarantee i) safe storing of messages in redundant locations before they are processed and ii) automated reestablishment of lost services in case of failure, without loss or duplication of messages. Communications with MX, dedicated to the clearing of derivatives, are handled through a protocol specific to that link. This protocol supports all functionalities related to the establishment, reestablishment and resynchronization of message feeds after a software, hardware or network failure on either MX's or CDCC's part occurs. Here again, all components involved in this message exchange run in hot primary - hot secondary mode. Communications with CDS, dedicated to the clearing of fixed income products, use CDS's own protocol. This protocol does not use sequence numbers. Instead, the solution relies on MQ Series to guarantee message delivery between CDS and CDCC. Furthermore, CDCC's components reading from CDCC's MQ Server validate that a message has been received and safely stored by FMR before erasing it from the MQ Server. Automated failover of SOLA® Clearing components can be configured to occur after a certain amount of time. In CDCC's production environment today, this delay is typically set to 1 minute. MQ Series failover is a manual process which typically completes within 20 to 40 minutes.

In addition to the messaging integrity mechanisms described in the preceding paragraphs, SOLA® Clearing implements, at the business level, reconciliation mechanisms which allow it to detect data inconsistencies and automatically raise alerts if this were to happen. All these mechanisms are described in further details in SOLA® Clearing architecture documents.

Capacity is monitored on a real time basis for performance; activity against peak predicted activity thresholds are reported during weekly operation meetings. CDCC performs an annual capacity review.

With the implementation of SOLA® Clearing in May 2009, CDCC formally separated the BCP component from the DRP component.

CDCC's Business Continuity Plan ("BCP") is managed internally by CDCC's management team. The BCP addresses business related issues and possible scenarios. CDCC's business processes are run out of two physical locations. CDCC's Member Services department has personnel in both Montréal and Toronto which adds redundancy capabilities at the business level. As defined within the CDCC BCP Testing Plan and according to the CDCC BC/DR Policy, CDCC runs BCP simulations. This is conducted on at least an annual basis.

- CDCC's Disaster Recovery Plan ("DRP") for its technical operations is managed on behalf of CDCC by the TMX Technologies group. CDCC's technical platform consists of a primary and secondary server in both the primary and back-up data centers. As defined within the CDCC BCP Testing Plan and according to the CDCC BC/DR Policy, CDCC does indeed run DRP tests. This is conducted on an 'at least' annual basis.
- In 2012, CDCC participated and conducted and is planning to participate in the following DR Tests: 2012 SIFMA (Securities Industry & Futures Markets Association) DR Test (industry test) (conducted, October 27, 2012)
- 2012 FIA (Futures Industry Association) DR Test (industry test) (conducted, October 27, 2012)
- 2012 Annual CDCC DR Member Connectivity Test (CDCC test) (conducted, May 12, 2012)
- 2012 TMX Group Internal DR Test (TMX Group/CDCC test) (conducted, June 06, 2012)
- 2012 TMX Group External DR Test (TMX Group/CDCC test) (conducted, October 27, 2012)
- 2012 CDS DR Test (CDS test) (conducted, May 12, 2012)
- 2012 Repo-Fixed Income CDCC-CDS DR Test (CDS & CDCC test) (conducted, September 27, 2012)

In 2013, CDCC participated and conducted the following DR Tests:

- 2013 IIROC DR Test (industry test) (conducted, October 05, 2013)
- 2013 FIA (Futures Industry Association) DR Test (industry test) (conducted, October 05, 2013)
- 2013 SIFMA (Securities Industry & Futures Markets Association) DR Test (industry test) (conducted, October 05, 2013)
- 2013 Annual CDCC DR Member Connectivity Test (CDCC test) (conducted, September 07, 2013)
- 2013 TMX Group Internal DR Tests (TMX Group/CDCC test) (conducted, June 08, 2013 and September 07, 2013)
- 2013 TMX Group External DR Test (TMX Group/CDCC test) (conducted, October 05 2013)
- 2013 CDS DR Test (CDS test) (conducted, May 11, 2013)

The extent of these DR Tests depends upon the type of test and the lead coordinator. When CDCC is acting in a coordinating capacity, CDCC issues various Operational Notices, coordinates internal meetings, ensures that proper support is provided on the day of the test and creates official post-mortem reports. When participating in testing coordinated by others, efforts extend beyond the latter to also include participation in industry conference calls and completion of various documents/artefacts as requested by industry.

PART 8 FINANCIAL VIABILITY AND REPORTING

8.1 *The clearing agency has sufficient financial resources for the proper performance of its functions and to meet its responsibilities and allocates sufficient financial and staff resources to carry out its functions as a clearing agency in a manner that is consistent with any regulatory requirements.*

CDCC collects adequate levels of collateral from its Clearing Members as margin and clearing fund deposits to ensure proper performance of its risk management function. Collateral requirements are set forth in Rule A-6 (Clearing Fund Deposits) and Rule A-7 (Margin Requirements) of CDCC Rules and more specifically in the Risk Manual which forms part of the CDCC Rules. Generally, margin fund collateral requirements are risk-based and are meant to provide adequate coverage 99.87% of the time over a 2-day liquidation period. The clearing fund is sized based on historical stress scenarios and is meant to cover its largest default, where each Clearing Member's contribution is based on the exposure that its positions represent in proportion to the total counterparty exposure of CDCC.

All collateral pledged is required by the CDCC Rules to be in the form of highly liquid assets. The risk department of CDCC runs a default simulation every year in order to test many operational functionalities related to CDCC's default process including the possibility of seizing the assets which are mostly pledged at CDS (Canadian securities) and DTCC (US securities). With the addition of new services and Clearing Members, CDCC held in 2013 a table-top exercise that involved all key stakeholders, including CDS in respect of certain essential functions performed by CDS, including:

- 1) Disabling a Fixed Income CCPs access to the SNS; and
- 2) Modifying the target CUID on a non-conforming Clearing Member's forward dated settlement instructions.

CDCC has established a procedure to stress test its exposures in extreme but plausible market conditions to cover any residual risk which corresponds to the difference between the loss under the stress scenario and value of margin deposits (including the margin fund and the difference fund). The additional resources required to cover the residual risk is pledged in the clearing fund. The clearing fund is a mutualized fund to which all Clearing Members must contribute according to their risk level which is directly proportionate to their margin requirement level.

The stress scenarios include the most volatile periods that have been experienced by the markets over the last decades and they are also chosen for their representation of the range of contracts cleared by CDCC. The four stress scenarios currently used by CDCC are:

- Black Monday (1987)
- Financial Crisis (2008)
- Russian Default (1998)
- Bond Market Crash (1994)

CDCC's stress tests and consequent clearing fund requirements are performed monthly. Scenarios and parameters are reconsidered annually and whenever the corporation deems necessary.

The risk management department of CDCC re-evaluates the clearing fund size once per month and potentially adjusts it to a higher or a lower size adequate to cover any largest shortfall (difference between the highest potential loss and the margin requirement) using a fair and transparent policy based on the last 60 days' average of the uncovered residual risk for every Clearing Member. Also, on a weekly basis, CDCC re-calibrates individual Clearing Member contributions to the Clearing Fund to account for intra-month changes to CDCC's largest exposure.

In addition to the financial resources described above, CDCC has various facilities as described in section 6 of this application.

CDCCS, the infrastructure operated by CDCC is now designated by the Bank of Canada under the Payment Clearing and Settlement Act, as of April 30, 2012. Hence, the Bank of Canada formally oversees it as a systemically important financial market infrastructure and holds it to the highest standards. In addition, designated systems are eligible for fully collateralized, liquidity loans from the Bank of Canada.

CDCC also maintains an appropriate level of capital to ensure proper performance of its operations; i.e. sufficient capital to meet its Aggregated Collateral Value Requirements, as defined within CDSX, as well as its participation within the default waterfall (and replacement of same) and one year coverage of operating expenses.

This equity capital is held in the form of cash and short term marketable securities which are readily converted into cash if the need arises. More specifically:

1. Cash deposits with a Schedule 1 Canadian bank;
2. Overnight deposits;
3. Money market mutual fund which is, according to the prospectus, convertible same day;
and
4. Short term bond fund which is convertible into cash within three business days.

Annual audited financial statements and the report prepared by an independent auditor are filed with the AMF, concurrently with the Commission, and with the Bank of Canada.

In addition to financial resources, as part of its commitment in ensuring sound risk management and operational efficiency, CDCC has continued to invest in additional human resources and appropriate training as its business activities evolve. CDCC believes that the existing structure adequately addresses current business needs. When the structure of Phase 3 is agreed upon by the industry, CDCC will make a determination on whether or not there will be staffing implications. CDCC management has been carefully monitoring the impact on the Member Services team as well as the Risk Department as the fixed income clearing activities are brought online.

CDCC also continues to develop and enhance its technical infrastructure to support such activities. CDCC ensures that the Clearing Members are informed and participate in these initiatives via the quarterly User Groups meetings and notices.

PART 9 OPERATIONAL RELIABILITY

9.1 *The clearing agency has procedures and processes to ensure the provision of accurate and reliable settlement.*

The procedures and processes ensuring accurate and reliable settlement services between CDCC and its Clearing Members are set forth in CDCC's Operations Manual which is an integral part of the CDCC Rules and publicly available on CDCC's website. As part of its CCP role for the fixed income market, CDCC is a participant at CDS and maintains the necessary ACV and line of credit to meet its settlement obligations within CDSX. As the central depository for securities in Canada, CDS provides book-based settlement services, on a delivery versus payment basis, to CDCC and its Clearing Members. As part of its clearing services, CDCC operates cash settlements on a daily basis. CDCC's Clearing Members maintain their settlement accounts with financial institution(s). CDCC acts as the Clearing Members' agent in giving instructions to the financial institution(s) holding the Clearing Members' settlement accounts, in accordance with Section A-217 (Corporation as Agent Re Settlement Accounts) of the CDCC Rules.

CDCC's Canadian dollar settlement account is at the Bank of Canada and its US dollar settlement account is held at a Schedule I bank, Royal Bank. Canadian dollar payments are issued by and to CDCC via the Large Value Transfer System ("LVTS") operated by the Canadian

Payment Association. US dollar payments are issued by and to CDCC via the Financial Electronic Data Interchange system.

CDCC has contingency plans in place for payments to the Clearing Members and payments to the CDCC. All settlements of CDCC's products are in Canadian dollars and are using Central Bank money. It should be noted that CDCC's US dollar payment system does use Commercial Bank money. It should be noted that US dollar payments are currently only made if there is a corporate action on an equity option that changes a share delivery to a US dollar underlying, which rarely occurs. These are itemized in CDCC's BCP. With respect to Clearing Members' settlement processing, the following define remediation measures that are applied if the latter are adversely affected:

- CDCC e-mails or faxes the CS02 report to Royal Bank of Canada for Canadian payments to CDCC and all US dollar payments and Royal Bank of Canada confirms within ½ hour that payments were made (an e-mail is also sent).
- CDCC e-mails or faxes the CS02 report to the Bank of Canada for Canadian payments to Clearing Members. The Bank of Canada would e-mail confirmation that payments have been issued.
- CDCC would hand-deliver the CS02 report if the e-mail or fax machines were not available.

With respect to managing Clearing Members' assets deposited with CDS, the following define remediation measures that are applied if the latter are adversely affected:

- CDCC would invoke its Contingency Agreement with CDS. This allows CDCC to use terminals at CDS or submit hardcopy requests.

PART 10 PROTECTION OF ASSETS

10.1 *The clearing agency has established accounting practices, internal controls, and safekeeping and segregation procedures to protect the assets that are held by the clearing agency.*

Federal insolvency laws in Canada allow the separate identification and treatment of customer and proprietary assets. CDCC currently has the ability to calculate customer and proprietary margin requirements separately. It is up to each Clearing Member to decide if it wishes to use CDCC's account and sub-account structures to accomplish this. If the Clearing Members do not identify the margin deposits as being customer or proprietary assets, CDCC considers all margin deposits as collateral for all Clearing Members' positions without distinction. CDCC's Clearing Members pledge assets to CDCC to cover their margin requirements.

Collateral assets in the form of government securities are transferred electronically to the pledge account of CDCC at a central securities depository. In the case of a Clearing Member becoming non-conforming, CDCC can seize the collateral in such pledge account and the security will be transferred to CDCC's general account within its CUID.

CDCC has pledge accounts in Canada at CDS and in the United States of America at DTCC. Electronic pledges must be received from the legal entity that is a Clearing Member of CDCC or through an acceptable depository, approved by CDCC. There is an exception to this in the case of a Clearing Member that has entered into a tri-party agreement that allows an approved settlement agent to perform this task on its behalf. To accomplish this, the Clearing Member creates an entry within CDS to identify a pledge coming to CDCC and the approved settlement agent (which is pre-identified by contract to CDCC) makes a matching entry within CDSX. If a Clearing Member becomes non-conforming, CDCC could seize the electronic pledges via its terminal access to CDS or DTCC, as the case may be.

Cash deposits are transferred outright and maintained by CDCC in an account in its own name at the Bank of Canada for Canadian dollar deposits and at a Schedule I bank for U.S. dollar deposits. Canadian dollar cash payments are processed through LVTS. U.S. payments cash payments are processed through the Schedule I bank's FEDI processes. For both Canadian and US payments, CDCC has the power of attorney to act on the Clearing Members' behalf to issue payments to CDCC, in accordance with Section A-217 (Corporation as Agent Re Settlement Accounts) of the CDCC Rules. CDCC monitors the financial status of financial institutions, including that of the Schedule I bank that CDCC uses, as part of its risk management processes.

On a monthly basis, CDCC retrieves financial data on IIROC members and ensures that those members are not exhibiting signs of "Early Warning". Similarly for bank Clearing Members, CDCC consults capital adequacy reporting on the OSFI website and ensures that the reporting banks continue to meet financial standards such as capital multiples and leverage.

CDCC accepts put escrow receipts, call underlying interest deposits and futures underlying interest deposits in the format that is provided within the Operations Manual. CDCC staff reviews the documents as they are received to ensure that the format is compliant. CDCC maintains a list of approved depositories and the risk management area reviews and validates such depositories on an annual basis, in accordance with requirements set forth in Section A-212 (8) of the CDCC Rules. CDCC management does report on the list of approved depositories to RMAC and to the Board of CDCC.

All asset class holdings are reconciled on a daily basis and the value of Clearing Members' assets held by CDCC are reported in CDCC's audited financial statements.

PART 11 OUTSOURCING

11.1 *Where the clearing agency has outsourced any of its key functions, it has appropriate and formal arrangements and processes in place that permit it to meet its obligations and that are in accordance with industry best practices. The outsourcing arrangement provides regulatory authorities with access to all data, information, and systems maintained by the third party service provider required for the purposes of regulatory oversight of the agency.*

CDCC does not outsource any of the key functions of its clearing services with third parties outside of the TMX Group.

Within the TMX Group, CDCC has a services agreement with MX, whereby MX provides to CDCC certain services, including information technology, management and administrative services, and also has a services agreement with TSX inc., whereby TSX inc. provides to CDCC certain services, including information technology, management and administrative services. The service provider (MX or TSX inc., as applicable) may employ the services of a subcontractor to provide requested services when warranted in its judgment or at CDCC's request; provided, however, that the service provider remains fully responsible of the fulfillment of its contractual obligations. Whenever the service provider has used the services of subcontractors, CDCC has been involved in the outsourcing process. These contracts are mutually beneficial for the parties and conducted in the normal course of affairs.

PART 12 INFORMATION SHARING AND REGULATORY COOPERATION

12.1 *For regulatory purposes, the clearing agency cooperates by sharing information or otherwise with the Commission and its staff, self-regulatory organizations, exchanges, quotation and trade reporting systems, alternative trading systems, other clearing agencies, investor protection funds, and other appropriate regulatory bodies.*

Under the QDA, CDCC is required to provide the AMF with any information required by its recognition order as well as any information relating to its activities that would be useful to the AMF in exercising its powers and functions. In accordance with National Instrument 21-101, MX

is required to report to the AMF, concurrently with the OSC, any significant events related to CDCC.

CDCC has executed an MOU with the Investment Industry Regulatory Organization of Canada ("IIROC") in order to share information on Clearing Members' status, pursuant to which CDCC shall receive notices of any "Early Warning" triggers with respect to its members from the IIROC.

CDCC has also executed an MOU with the Chicago Mercantile Exchange, which the vast majority of CCPs around the world have also signed, allowing for the sharing of information among CCPs on a global scale upon the default of a member. CDCC is also one of 28 member organizations of CCP12, a not-for-profit organization that ensures dialogue among clearing houses globally on the adoption of best clearing and risk management practices, supporting strategic progress on regulatory harmonization, and the enhancement of global standards.

Information sharing with CDS will be included in the updated version of the CDS-CDCC MOU and will focus primarily on the joint operational procedures in default management which is currently under discussion. As CDS and CDCC have become sister companies part of TMX Group with the Maple Acquisition, the two entities now work more closely together and enhancing their respective and complementary service offerings to the Canadian capital market industry.

As CDCC relies on CDS with regards to transaction processing for the fixed income segment, the first point of reliance is with regards to disabling of access to SNS. This is necessary as CDCC would need to restrict the addition of new risk exposures to the CCP once an event of default has been declared. This coordinated communication is necessary for direct Clearing Members as well as indirect access via client arrangements. In the latter case, it is imperative that transactions which emanate from the brokered cash markets continue to be received in a matched form so as to mitigate the risk that an Interdealer broker be held with position at the end of a day due to a default.

Furthermore, CDCC and CDS have increased the level of communication in and around payment exchange so that an event of default by a CDCC Clearing Member does not precipitate a default by CDCC at CDS. This is accomplished by ensuring that CDCC is able to access its overnight liquidity facility and satisfy its payment obligations at CDS prior to CDCC being declared in default at CDS.

Finally, CDCC has a dependency at CDS with regards to outstanding settlement instructions of Clearing Members. As all transactions involving physical settlements of securities culminate in a CDS instruction (options, bond futures, fixed income), any outstanding instructions with a defaulter's CUID attached to them would need to be adjusted to reflect CDCC's CUID (for current value-dated settlements) or a new Clearing Member's CUID (for future dated settlements) which is determined as part of the default management auction. CDCC would be requesting that CDS change the CUID on these outstanding settlement instructions in accordance with the results of its default management process.

Yours very truly,

A handwritten signature in black ink that reads "Pauline Ascoli". The signature is written in a cursive, flowing style.

Pauline Ascoli

cc: Antoinette Leung, Manager, Market Regulation
Maxime Paré, Senior Legal Counsel, Market Regulation