

SUPP S-1—EXHIBIT D-1

Request: Attach a description of the clearing and settlement systems, including, but not limited to, the manner in which such systems interface with the foreign board of trade’s trading system and its members and other participants.

Response:

CDCC handles the technical processing and settlement tasks required to execute trades conducted on Montréal Exchange. It also plays the role of central counterparty, which involves not only trade management, but also sophisticated risk management processes.

CDCC has a leading-edge proprietary clearing platform, SOLA Clearing, which is part of a proprietary software system developed by the Montréal Exchange. It is designed to support clearing and settlement of a full range of products. SOLA is currently used to trade Canadian derivatives at the Montréal Exchange, U.S. equity options at the Boston Options Exchange, LLC, and financial products at the London Stock Exchange.

Sola has a very high capacity for handling orders, price updates, and margins, and has high performance, even at peak volumes. The overall capacity and performance of CDCC's clearing system, SOLA Clearing, has been determined based on a CDCC Performance & Capacity study conducted in December 2011. These test showed that CDCC's clearing system is capable of sustaining a heavy load without surpassing any of the designated thresholds. During the tests, all systems functioned well, and could handle all of the activities that occur throughout a typical day of clearing. "Round trip" response times were well below 1 second during interactive periods and were not significantly impacted by batch processes; *i.e.*, once batch processing was completed, response times returned to normal almost immediately. System resource utilization observed was as expected, with batch processing resulting in the busiest period. As the systems operated within their set thresholds, it can be concluded that there are no resource limitations in the production environment, even under conditions of heavy use.

It can be deployed quickly, has a very high rate of availability, and there is low implementation risk. During the tests that reflected a Production configuration, the following results were observed:

Event	Start Time	End Time	Duration	Target
Intra Day Netting Start	09:01:29	09:01:42	13 seconds	<10 minutes
Intra Day Netting Finalize	09:09:22	09:09:34	12 seconds	<10 minutes
Intra Day Batch	09:13:34	09:15:45	2 minutes, 11 seconds	<20 minutes
End of Day Batch	09:29:44	09:54:25	24 minutes, 41 seconds	<90 minutes from start of EOD batch to report completion
End of Day Reports			35 minutes*	

Table 4 - Event durations

** Based on production report execution times.*

SOLA scales to fit with business capacity and performance requirements, and its configuration can be customized. Its distributed architectures allows local access for market participants, live back-ups, and reduced operational costs. It is also flexible, so allows new functions to be deployed quickly, and it supports multiple product categories.

The following observations were noted during the tests, leading to the conclusion that there are no limitations/conflicts during the typical production processes:

- CPU usage: CPU usage remained well below the threshold throughout the entire test session. As expected, CPU utilization increased during intra-day and end of day batches.
- Memory usage: Memory utilization remained well below the threshold throughout the entire test session. It is estimated, on a worst-case basis (assuming no data retention activity), that during a typical clearing week, core Solaris systems' memory usage may account for just under 50% of available memory.
- Disk usage: Disk usage is greatest during the intra day and end of day batches, especially for Solaris and Windows systems, though usage remains below each system's respective thresholds. No sustained peaks were observed, indicating that there is ample disk IO available to the systems. In terms of disk space usage, available disk space was measured prior to the tests and again after completion of the tests. The following table shows the space usage:

	Total Available GB	Available Before Testing	Available After Testing	Amount Used	Percent Used
Solaris	1673	1580	1572	8	0,5%
Windows	1367	310	303	7	0,5%
MQ Series	492	491	491	0	0,0%

As shown in the table, the system is equipped with ample disk storage and would be able to sustain a high load. The disk usage measured is well within the system's weekly operational cycle requirements. For the MQ Series server, the tests do not show any noticeable increase because MQ Series uses pre-allocated space. Disk usage does not increase unless storage surpasses what was pre-allocated.

- Network usage: As expected, network usage is highest during the intra-day and end-of-day batches, especially for the core Solaris systems. However, peak usage still remains below the thresholds indicating that there is no network limitation during peak system processing periods.

For CDCC's Business Continuity Plan, please see Attachment 49.

SUPP S-1—EXHIBIT D-2

Request: Attach a certification, signed by the chief executive officer (or functional equivalent) of the clearing organization, that the clearing system observes:

- (1) the current Recommendations for Central Counterparties that have been issued jointly by the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions, as updated, revised or otherwise amended, or
- (2) successor standards, principles and guidance for central counterparties or financial market infrastructures adopted jointly by the Committee on Payment and Settlement Systems or the International Organization of Securities Commissions (RCCPs).

Response:

Please see certification signed by Glenn Goucher, President and Chief Clearing Officer of CDCC.

**UNDERTAKING PURSUANT TO 17 C.F.R. PART 48,
APPENDIX—SUPPLEMENT S-1 TO FORM FBOT, EXHIBIT D-2**

The undersigned hereby certifies that the clearing system of the Canadian Derivatives Clearing Corporation observes the current Recommendations for Central Counterparties that have been issued jointly by the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions, as updated, revised or otherwise amended.

By:  _____

Dated: July 17, 2012

Name: Glenn Goucher
Title: Chief Clearing Officer
For: Canadian Derivatives Clearing Corporation

SUPP S-1—EXHIBIT D-3

Request: Attach a detailed description of the manner in which the clearing organization observes each of the RCCPs or successor standards and documentation supporting the representations made, including any relevant rules or written policies or procedures of the clearing organization. Each RCCP should be addressed separately within the exhibit.

Response:

Please see Attachment 45, Self Assessment by CDCC with respect to observance of the Recommendations for Central Counterparties.

This Self-Assessment was conducted further to a request from the Bank of Canada as part of its designation review of CDCC as “designated clearing and settlement system” (i.e., a system that may pose a systemic risk) under the *Payment Clearing and Settlement Act* (Canada). The Bank of Canada issued this designation on April 27, 2012, effective April 30, 2012.¹

¹ See Attachment 48, CDCS Bank of Canada Designation Release.