



NASDAQ CXC Limited

Trading Functionality Guide

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REVISION HISTORY

VERSION	DESCRIPTION	DATE
1.0	Initial Version	March 1, 2018
1.1	Incorporation of Broker Preferencing for CXC	September 1, 2018
1.2	Incorporation of MAQ ATT, MQ ATT and SPI order types	October 1, 2018
1.3	Change in Operating Hours for CXC and CX2	November 1, 2018
1.4	Change reference from 2018 to 2019	January 16, 2019
1.5	Incorporation of GEF Facility	April 1, 2019
1.6	Incorporation of M-ELO Order	November 22, 2019
1.7	<ul style="list-style-type: none"> • Updated year • Inclusion of Derivatives Related Cross • MPI moved to 6.5 Non-Display Orders 	January 29, 2020
1.8	Introduction of broker preferencing for anonymous orders for the CXD Trading Book.	May 1, 2020.
1.9	Expansion of marketplace thresholds	September 24, 2020
2.0	Maximum number of GEF Members per Assigned Security removed	January 14, 2021
2.1	Updated references to year	January 29, 2021
2.2	Updated GEF Obligations	September 1, 2021
2.3	Change of reference from 2021 to 2022	January 10, 2022
2.4	Changes made to time orders are accepted for CXD	April 4, 2022
2.5	Introduction of CXD Odd Lot Book	May 2, 2022
2.6	Introduction of PureStream	October 3, 2022
2.7	Change of reference from 2022 to 2023	January 29, 2023
2.8	NEO-listed securities made available to trade	May 1, 2023
2.9	Introduction of a Minimum Stream Quantity for PureStream	December 1, 2024
3.0	Change of reference from 2023 to 2024	January 30, 2024
3.1	Introduction of broker preferencing for hidden anonymous orders on the CXC and CX2 Trading Books	March 6, 2024
3.2	Adding language to clarify that a Liquidity Seeking order can be entered with a minimum LTR rate greater than 500% will result in the order only being traded at the midpoint.	December 2, 2024
3.3	Change of reference from 2024 to 2025 Editorial Changes	January 30, 2025
3.4	Introduction of CXD Conditional Order Book, CXD Conditional Orders, XFT Conditional Orders, CXD Connect, PureStream Connect and removal of Liquidity Seeking Orders from PureStream	October 6, 2025
3.5	Added description about Mid-Peg orders interacting with M-ELO orders with examples in 6.5.2 and reference in 6.5.9.	November 17, 2025

1 Purpose

This Trading Functionality Guide (Guide) serves as a companion guide to the Nasdaq CXC Limited Trading Rules and Policies (Trading Rules). The Guide provides additional details including examples of the trading features offered by Nasdaq CXC Limited (Nasdaq Canada) including order types, risk controls and order handling processes that ensure compliance with regulations including the Order Protection Rule (OPR) and the Canadian Investment Regulatory Organization (CIRO) Dark Rule Framework. The Guide is updated periodically when new functionality is introduced or amended. Unless otherwise defined or interpreted, every defined term in the Trading Rules has the same meaning in this Guide.

2 Overview

Nasdaq Canada operates three independent Trading Books; CXC, CX2 and CXD. CXC and CX2 are lit books offering Members the benefits of order attribution and price/broker/time execution priority. All three Trading Books offer post trade attribution and price/broker/time execution priority.¹ Each book operates independently of one another supporting its own market data feed. Order entry instructions for each book use the Financial Information Exchange protocol (FIX).

CXD is a dark book offering Members opportunities for price improvement and reduced information leakage. CXD also supports PureStream, where orders are paired creating Streams based on Broker/LTR/Size/PureStream Limit price/Time Pairing Priority. More information about PureStream can be found in Section 7 of this Guide. CXD also supports the CXD Conditional Order Book where Members can enter Conditional Orders that meet the CXD Conditional Order Book Minimum Size. More Information about the CXD Conditional Order Book can be found in Section 8 of this Guide. All characteristics and descriptions of CXD in this Guide apply to PureStream and the CXD Conditional Order Book unless otherwise noted.

Trading Book	Securities Traded	Market Data	Order Entry
CXC - a continuous auction market offering on-exchange internalization opportunities through broker preferencing for attributed orders.	Listed Securities on the TSX, TSX-V, CSE and NEO	The CXC market data feed offers full depth of book (price/volume) as well as trade data.	Industry-standard FIX protocol order entry via third-party and proprietary execution management systems.
CX2 – a continuous auction market using broker preferencing and a unique pricing model for participants with higher active/passive trading ratios.		The CX2 market data feed offers full depth of book (price/volume) as well as trade data.	
CXD – a continuous auction dark market offering price improvement opportunities and broker preferencing.		The CXD market data feed only publishes trade data.	

¹ PureStream Orders on CXD are paired based on Broker/LTR/Size/Price/Time Pairing Priority

3 Trading Operations

3.1 Trading Sessions

3.1.1 Time

The Trading Sessions for the CXC and CX2 Trading Books are from 8:00 a.m. to 5:00 p.m. (EST).

The Trading Session for the CXD Trading Book is from 9:30 a.m. to 4:00 p.m. (EST)

3.1.2 Opening

CXC and CX2: The CXC and CX2 Trading Books do not accept orders before the open at 8:00 a.m. At 8:00 a.m. each Trading Book uses a shotgun style open where orders are processed in the sequence they are received.

CXD: The CXD Trading Book accepts orders at 7:00 a.m. which are held by the system in time priority until the open at 9:30 a.m. At 9:30 a.m. all orders are entered into the CXD order book in the context of the NBBO. Any buy order that has a price above the NBO will be repriced to the NBO. Any sell order that has a price below the NBB will be repriced to the NBB. All other orders will enter the book at the price the order was entered.

PureStream Orders on CXD: PureStream Orders operate within the same operational hours as CXD. Orders entered prior to 9:30 a.m. are paired into Streams based on PureStream's order Pairing Priority methodology at 9:30 a.m. Orders paired in Streams begin matching with the first Reference Trade for a security after the security opens for trading on the listing exchange.

CXD Conditional Order Book on CXD: CXD supports a CXD Conditional Order Book accepting CXD Conditional Orders, XFT Orders, IOC Orders that meet the CXD Conditional Minimum Size and CXD Connect Orders when certain conditions are met (see Section 9 of this Guide). CXD and XFT Conditional Orders that are entered prior to 9:30 a.m. are accepted and held by the system in time priority until the open at 9:30 a.m. At 9:30 a.m. firm-up requests will be sent to CXD and XFT Conditional Orders based on Broker/Size/Time.

3.1.3 Close

CXC and CX2: At 5:00 p.m. the CXC and CX2 Trading Books close. At this time matching no longer takes place and orders in the book are cancelled back to the Members.

CXD: At 4:00 p.m. the CXD Trading Book closes. At this time matching no longer takes place and orders in the book are cancelled back to the Members.

3.2 Eligible Securities

Securities listed on the following Canadian Exchanges are available for trading on each Nasdaq Canada Trading Book:

- TSX
- TSX-V

- CSE
- NEO

3.3 Minimum Price Increment

All Trading Books restrict orders entered to the minimum tick increments allowed by UMIR. These increments are as follows:

- For securities with a price $\geq \$0.50$ a minimum price increment of \$.01 CAD
- For stocks with a price $< \$0.50$ a minimum price increment of \$.005 CAD

3.4 Board Lot Sizes

Each Trading Book permits orders to be entered in Board Lots that are defined as Standard Trading Units (defined by UMIR) and Odd Lots. Odd lot and Mix Lot orders are accepted and handled by each Trading Book as described in the Odd Lot Trading section of this Guide.

4 Trading Books of Nasdaq Canada

4.1 CXC Trading Book

CXC is a lit Trading Book offering a continuous auction market matching orders based on price/broker/time priority.² Members may elect to have their orders be entered without attribution by selecting the anonymous order marker. All attributed displayed orders are eligible for broker preferencing automatically whereas anonymous displayed orders are not.³ Both attributed and anonymous hidden orders are eligible for broker preferencing. Jitney orders are not eligible to participate in broker preferencing.

CXC supports a suite of visible and hidden orders. All visible orders are given priority over hidden orders at the same price. Furthermore, all CXC non-display orders are handled in compliance with CIRO's Dark Rule Framework which is enforced by the Nasdaq Canada trading system (Nasdaq Canada System). For more information about CIRO Dark Rule Framework please see Section 12 of this Guide.

4.2 CX2 Trading Book

CX2 is a lit Trading Book offering a continuous auction market matching orders based on price/broker/time priority.⁴ Members may elect to have their orders be entered without attribution by selecting the anonymous order marker. All attributed displayed orders are eligible for broker preferencing automatically whereas anonymous displayed orders are not. Both attributed and anonymous hidden orders are eligible for broker preferencing. Jitney orders are not eligible to participate in broker preferencing.

CX2 supports a suite of visible and hidden orders. All visible orders are given priority over hidden orders at the same price. All CX2 non-display orders are handled in compliance with CIRO's Dark Rule Framework which is enforced by the Nasdaq Canada System.

4.3 CXD Trading Book

CXD is a dark Trading Book (no pre-trade transparency) offering a continuous auction market matching orders based on price/broker/time priority.⁵ Members may elect to have their orders be entered without attribution by selecting the anonymous order marker. All orders are eligible for broker preferencing automatically. Jitney orders are not eligible to participate in broker preferencing.

As a dark book, all CXD non-display orders are handled in compliance with CIRO's Dark Rule Framework which is enforced by the Nasdaq Canada System.

CXD supports PureStream Orders. PureStream Orders are paired with one another based on a specified liquidity transfer rate (LTR) instead of a specific price. When orders are paired, Streams are established which in turn are held by the system until a Reference Trade occurs. When a Reference Trade occurs, a match is generated from orders paired in a Stream based on its LTR and printed on the market as a bona fide trade. For more information about PureStream please see Section 7 of this Guide.

² For a description of trade matching priority see Section 5.

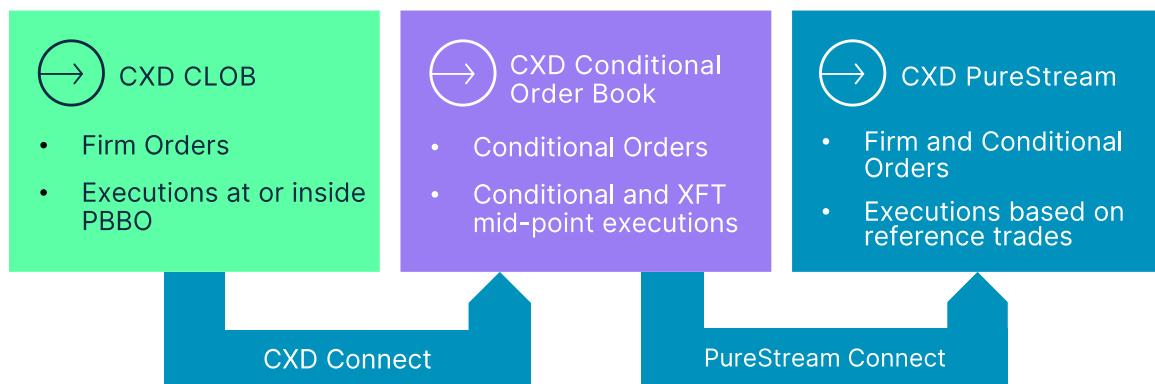
³ Anonymous and attributed M-ELO orders are eligible for broker preferencing.

⁴ For a description of trade matching priority see Section 5.

⁵ For a description of trade matching priority see Section 5.

CXD also supports the CXD Conditional Order Book which accepts CXD Conditional Orders, XFT Orders, IOC Orders that meet the CXD Conditional Minimum Size, and CXD Connect Orders when certain conditions are met. Matching priority for the CXD Conditional Order Book is determined by Broker/Size/Time priority. CXD Conditional Orders do not require a firm commitment to trade from a Member when the order is entered. Instead, a CXD Conditional Order will become eligible to trade only after a firm-up request has been sent to the Member that entered the order and the Member has acted on it. Trades in the CXD Conditional Order Book will execute only at the midpoint of the NBBO. CXD and XFT Conditional Orders have a minimum order size that is the greater of 50 standard trading units and \$30,000 in notional value or greater than \$100,000 in notional value in accordance with UMIR 6.6. For more information about the CXD Conditional Order Book please see Section 8 of this Guide.

CXD Trading Book



5 Order Matching Priority

The sequence of matching priority for orders in the order book with eligible marketable orders is determined by the several characteristics; price, time, and the number of the participant organization (Member) entered with the order if the order is entered with attribution. Below are examples of each component of Matching Priority.

5.1 Price Priority

Priority is given to an order with the best price (highest bid or lowest offer).

Priority	Broker ID #	Size	Bid	Offer	Size	Broker ID #
P1	09	300	10.00	10.01	500	85
P2	07	100	9.99	10.02	600	63
P3	05	100	9.98	10.03	100	07

The buy order for 300 shares entered by broker #09 has execution priority because it is the highest price bid. Likewise, the sell order for 500 shares entered by broker #85 has execution priority because it is the lowest price offer.

5.2 Time Priority

Priority is given to an order at the same price that was entered first.

Priority	Broker ID #	Size	Arrival Time	Bid
P1	09	300	9:30:01	10.00
P2	07	100	9:31:00	10.00
P3	05	100	9:32:00	10.00

In this example, the buy order for 300 shares by broker #09 entered at 9:30:01 has execution priority because it was entered before the other two orders for 100 shares at the same price.

5.3 Broker Priority

Priority is given to an order at the same price with the same broker ID whether or not the order was entered first. This order will be receive matching priority over orders at the same price that were entered first.

Priority	Broker ID #	Size	Arrival Time	Bid
P1	09	300	9:30:01	10.00
P2	07	100	9:31:00	10.00
P3	05	100	9:32:00	10.00

This snapshot of the bid side of the protected market is identical to the example provided in 5.2 for time priority. However, unlike the 300 share order that was entered first and had priority in the aforementioned example, broker priority allows for a contra-side sell order entered by a Member to execute against a buy

order entered by that same Member first. In this example, if a sell order is entered at 10.00 by either broker #07 or broker #05, it will first match with the buy order entered by the same Member before proceeding to execute with other orders in priority.

This is demonstrated when broker #07 enters a sell order for 100 shares at 10.00.

Action: #07 enters a sell order for 100 shares.

Priority	Broker ID #	Size	Arrival Time	Bid
P1	09	300	9:30:01	10.00
P2	07	100	9:31:00	10.00
P3	05	100	9:32:00	10.00

Although broker #09 had time priority in the book, broker priority oversteps the time priority of this order and instead priority is given to the buy order entered by broker #07.

Action: #07's buy order (P2) executes against the incoming sell order by #07 for 100 shares.

5.3.1 Trade Matching Priority of Nasdaq Canada Trading Books

Orders are matched based on the following sequence of priority for each of Nasdaq Canada Trading Books:

CXC: Price/Broker/Time⁶

CX2: Price/Broker/Time⁶

CXD: Price/Broker/Time

PureStream Orders on CXD are paired with one another using the following sequence of priority:

Broker/LTR/Size/PureStream Limit Price/Time

CXD and XFT Conditional Orders are matched in the CXD Conditional Order Book based on Broker/Size/Time.

⁶ Matching priority for anonymous displayed orders on CXC and CX2 is Price/Time. Matching priority for hidden orders (attributed and anonymous) is Price/Broker/Time

6 Order types

6.1 Traditional Order Types

6.1.1 Market Order

A Market Order is an order to buy or sell a security at the best available price on a Trading Book but will not trade at a price outside the NBBO⁷. If there are no orders resting in the Trading Book that the order is entered, the Market Order is converted to a Market Peg Order.

6.1.2 Limit Order

A Limit Order is an order to buy or sell a security at a price equal to, or better than, the specified limit price.

6.1.3 Short Sell Order

A Short Sell Order is an order to sell a security that the seller does not own (either directly or through an agent or trustee) at the time of the order.

6.1.4 Short Marking Exempt Order

A Short Marking Exempt Order is an order entered by an account to buy or sell a security that meets the definition of a short-marking exempt as defined by UMIR.

6.2 Specialized Order Types/Markers

6.2.1 Bypass Order

A Bypass order marker indicates that the Member does not want the order to interact with non-displayed orders or non-displayed portions of Iceberg or X-berg orders on a Nasdaq Canada Trading Book. Orders marked with the Bypass marker are treated as Immediate-or-Cancel (IOC).

Example 1

		BID	ASK	
NBBO		10.10	10.15	
CXC Quote	100	10.13 (hidden)		
CXC Quote	100	10.12 (hidden)		
CXC Quote	100	10.10		

Action: A Bypass order is entered to sell 100 shares on CXC at 10.10

⁷ Consistent with Nasdaq Canada's Trading Rules the NBBO represents the best protected bid and offer throughout this Guide.

Result: The Bypass order will execute against the 100 share lit buy order at 10.10 bypassing the 100 share hidden buy order at 10.13 and the 100 share buy order at 10.12

Example 2

	BID	ASK	
NBBO	10.10	10.15	
CXC Quote		10.13 (hidden)	100
CXC Quote		10.14 (iceberg)	100 (900)
CXC Quote		10.15	100

Action: A Bypass order is entered to buy 200 shares at 10.15 on CXC

Result: The Bypass order will bypass the 100 share hidden limit at 10.13 and execute 100 shares against the 100 visible portion of the 1000 share iceberg order (bypassing the 900 shares hidden in reserve) and 100 shares at 10.15 against the lit offer.

6.2.2 Directed Action Order (DAO)

The DAO order marker indicates that the user has already checked the quotes of all other markets before routing the order to a Nasdaq Canada Trading Book. DAO orders are not re-priced by the Nasdaq Canada system. Instead DAO orders will be immediately accepted and trade with the best priced contra-side order(s) or be entered in the order book (and potentially lock/cross the market) without consideration of prices on other markets. The DAO is a defined term in National Instrument 23-101 – *Trading Rules* and is included in the Order Protection Rule which permits a Member to opt-out of Nasdaq Canada’s OPR solution and take responsibility for preventing trade-throughs and locked or crossed markets by using a DAO.

Example 1

	BID	ASK	
NBBO	10.12	10.14	
CX2 Book	100	10.11	100

Action: A DAO order is entered to sell 100 shares at 10.11 on CX2

Result: The DAO order executes at 10.11 according to its order instructions trading through the 10.12 NBB on another market.

Example 2

	BID	ASK	
NBBO	10.12	10.14	
CX2 Book	100	10.12	10.15

Action: A DAO limit order is entered to buy 100 shares at 10.14 on CX2

Result: The DAO order posts 10.14 according to its order instructions locking the market with the 10.14 NBO on market.

		BID	ASK	
NBBO		10.12	10.14	
CX2 Book	100	10.14	10.15	100

6.2.3 Post Only Orders

A Post Only Order is an order intended only for liquidity provision that will only post in a Nasdaq Canada Trading Book upon order entry. If a displayed Post Only Order will result in a trade upon entry, the order is re-priced one tick increment more passively and booked. This order will not interact with hidden liquidity. Post Only Orders may be combined with any other order type including non-displayed orders. Two contra-side Post Only non-displayed orders eligible to match will not execute against one another. Instead, both orders will maintain their price until executing against an active order. In addition, no execution will take place between a resting dark Limit Order and an incoming contra-order marked Post Only with the same price as the resting order. Instead, both orders will remain in the book at the locked price unless a subsequent amendment or automated re-pricing of the first resting dark order causes that order to become active and executable against the contra-resting dark Post Only order.

Example 1 A marketable Post Only Order is entered on CXC

		BID	ASK	
NBBO		10.12	10.14	
CXC Book	100	10.12	10.14	100

Action: A Post Only Order is entered to buy 100 shares at 10.14 on CXC

Result: The marketable Post Only Order that would otherwise trade is repriced one tick increment more passively and booked at 10.13

		BID	ASK	
NBBO		10.12	10.14	
CXC Book	100	10.13	10.14	100

Example 2 Two Post Only Orders are entered on CXD resulting in a locked book

		BID	ASK	
NBBO		10.12	10.14	
CXD Book	100	10.12	10.14	100

Action: A Post Only Order hidden limit order is entered to buy 100 shares at 10.13 on CXD

Result: The Post Only Hidden Limit Order rests at 10.13

Updated Book

		BID	ASK	
NBBO		10.12	10.14	
CXD Book	100	10.13 (Hidden)	10.14	100

Action: A Post Only Order hidden limit order to sell 100 shares is entered at 10.13 on CXD

Result: The Post Only Hidden Limit Order that would otherwise trade with the 10.13 Hidden Limit Order locks the book at 10.13

Updated Book

		BID	ASK	
NBBO		10.12	10.14	
CXD Book	100	10.13 (Hidden)	10.13 (Hidden)	100

6.2.4 Conditional Order

A Conditional Order is an order that does not require a firm commitment to trade from a Member when the order is entered. Instead, a Conditional Order will become eligible to trade only after a firm-up request has been sent to the Member that entered the order and the Member has acted on it. A Conditional parameter can be added to a PureStream Order or entered as a CXD or XFT Conditional Order in the CXD Conditional Order Book (for more information about the CXD Conditional Order Book please see Section 8 of the Guide).

Example 1 (CXD Conditional Order)

NBBO for Security ABC: \$10.00 – \$10.02

Action: CXD Conditional Order #1 entered by Member 002 to buy 10,000 shares
CXD Conditional Order #2 entered by Member 007 to sell 20,000 shares

Result: Firm-up request sent to Member 002
Firm-up request sent to Member 007

Action: Member 002 responds to firm-up request (within 100 ms)⁸ and enters an order to buy 10,000 shares
Member 007 responds to firm-up request (within 100 ms) and enters an order to sell 10,000 shares

⁸ The length of the firm-up response time for a CXD Conditional Order can be modified at the discretion of the Exchange.

Result: Member 002 buys 10,000 shares from Member 007 at the midpoint of the NBBO (10.01)

Example 2 XFT Conditional Order

NBBO for Security ABC: \$10.00 – \$10.02

Action: XFT Conditional Order #1 entered by Member 002 to buy 10,000 shares
XFT Conditional Order #2 entered by Member 007 to sell 20,000 shares

Result: Firm-up request sent to Member 002
Firm-up request sent to Member 007

Action: Member 002 responds to firm-up request (within 20 seconds)⁹ and enters an order to buy 10,000 shares
Member 007 responds to firm-up request (within 20 seconds) and enters an order to sell 10,000 shares

Result: Member 002 buys 10,000 shares from Member 007 at the midpoint of the NBBO (10.01)

Example 3 PureStream Conditional Order

NBBO for Security ABC: \$10.00 – \$10.02

Action: Order #1 entered by Member 002 to buy 10,000 shares with a 30% LTR as a Conditional Order
Order #2 entered to sell 20,000 shares with a 30% LTR

Result: Firm-up request sent to Member 002

Action: Member 002 responds to firm-up request (within 100 ms) and enters an order to buy 10,000 shares with a 30% LTR

Result: Stream 1: Order #1 (Buy 10,000) paired with Order #2 (Sell 20,000) with a 30% LTR

Reference trade – 1,000 shares of ABC trades at \$10.01

Result: Order #1 matches 300 shares at \$10.01 against Order #2 (30% of 1000 shares based on LTR)

Stream #1: Order #1 (Buy 9,700) paired with Order #2 (Sell 19,700) with 30% LTR

6.2.5 Iceberg/Reserve Order

An Iceberg Order is an order where a Member determines the number of shares to be displayed, while the remaining shares are hidden in reserve. When the visible portion of an Iceberg Order is fully executed, a new visible displayed size is refreshed, drawing from the amount of the reserve. New displayed sizes will

⁹ The length of the firm-up response time for a XFT Conditional Order can be modified at the discretion of the Exchange.

refresh until the amount of the reserve is less than the displayed amount. At that point, the remaining reserve quantity will be displayed. An example of how priority is determined for Iceberg orders is provided below:

Example

Display	Reserve	Arrival Time	Bid
100	(900)	9:30:00	10.00
200	(300)	9:31:00	10.00
100	0	9:35:00	10.00

In the example above, there are three buy orders posted with a 10.00 limit price. These are: an Iceberg Order displaying 100 shares with 900 shares undisplayed in reserve; a second Iceberg Order displaying 200 shares with 300 shares in reserve; and a Limit Order for 100 shares posted at 10.00.

The displayed buy orders with share sizes of 100, 200, and 100 will be executed against matching sell orders based on the order matching priority sequence of the Nasdaq Canada Trading Book where they are posted. The reserve quantities of 900 and 300 will not become eligible for matching until all displayed shares at that price level have been exhausted. In the circumstance where all visible orders and visible portions of Iceberg Orders are displaced, the hidden portion of multiple Iceberg or X-Berg (see below) orders will execute in order following the order matching priority sequence of the applicable Nasdaq Canada Trading Book.

Hidden portions of Iceberg Orders are given order matching priority before any fully hidden order.

6.2.6 X-Berg Order

The X-Berg Order is an order that is similar to an Iceberg order. However, instead of the Member determining the number of shares to be displayed each time the order is refreshed, the displayed quantity is chosen by the Nasdaq Canada System and randomized within a pre-specified range set by the Member. A Member sets the number of shares displayed and the number of shares to be held in reserve when first entering the order.

Example

Quantity	Price	Display Quantity	Reserve	Random Refresh Range
50000	10.00	1000	49000	+/- 500

Possible Display QTY Refreshes (STU = 100)	
1500	Random (Maximum 1000 + 500)
1400	Random
1300	Random
1200	Random
1100	Random
1000	Random (Original Display Quantity)
900	Random
800	Random
700	Random

600	Random
500	Random (Minimum 1000 – 500)

Similar to the Iceberg Order outlined previously, the hidden portion of multiple Iceberg or X-Berg orders will execute in the order matching priority sequence of the Nasdaq Canada Trading Book it is entered on.

Hidden portions of X-Berg orders are given order matching priority before any fully hidden order.

6.3 Crosses

6.3.1 Intentional Crosses

An Intentional Cross is the simultaneous entry of both an order to buy and sell the same amount of a security at the same price entered by the same Member. Intentional crosses are not subject to cross interference. In accordance with CIRO guidance, Nasdaq Canada Trading Books accept better priced intentional crosses including those entered with a price of one-half trading increment.

6.3.2 Internal Cross

An Internal Cross is an Intentional Cross between two accounts that are managed by a single firm acting as a portfolio manager with discretionary authority in managing the investment portfolio. Like Intentional Crosses, Internal Crosses are not subject to cross interference.

6.3.3 Basis Cross

A Basis Cross is an Intentional Cross of at least 80% of the component share weighting of the basket of securities, index participation unit, or derivative instrument that is the subject of the basis trade. In accordance with UMIR, prior to execution, the Member shall report details of the transaction to CIRO.

6.3.4 VWAP Cross

A VWAP Cross is an Intentional Cross of a security at the volume weighted average price of multiple trades on a marketplace or on a combination of marketplaces over a specified time period. The volume weighted average price is the ratio of value traded to total volume. In accordance with UMIR, where applicable, prior to execution, the Member shall report details of the transaction to CIRO.

6.3.5 Contingent Cross

A Contingent Cross is an Intentional Cross resulting from a paired order placed by a Member on behalf of a client to execute an order on a security that is contingent on the execution of a second order placed by the same client for an offsetting volume of a Related Security as defined in UMIR

6.3.6 Derivatives-related Cross

A derivatives-related cross is an Intention Cross that is fully offset by a trade in a related security that is a derivative instrument.

6.4 Pegged Orders

6.4.1 Primary Peg

A Primary Peg Order is a buy or sell order that will peg to the passive side of the NBBO. Primary Peg orders can be entered as either displayed or non-displayed in a Nasdaq Canada Trading Book. Members have the option of entering a limit price with the order at which price the order will stay if the NBBO moves above or below the limit price.

Example 1 Primary Peg Buy Order

		BID	ASK	
NBBO		10.12	10.15	
CXC Book	100	10.12		

Action: A Primary Peg Buy Order for 100 shares is entered on CXC.

Result: The Primary Peg Buy Order is given the NBB price of 10.12 and rests in the CXC Book

Updated Book

		BID	ASK	
NBBO		10.13	10.15	
CXC Book	100	10.13		

Action: The NBB moves from 10.12 to 10.13

Result: The Primary Peg Buy Order is given the new NBB price of 10.13 and rests in the CXC Book

Example 2 Primary Peg Sell Order

		BID	ASK	
NBBO		10.12	10.15	
CXC Book			10.15	300

Action: A Primary Peg Sell Order for 300 shares is entered on CXC.

Result: The Primary Peg Sell Order is given the NBO price of 10.15 and rests in the CXC Book

Updated Book

		BID	ASK	
NBBO		10.12	10.14	
CXC Book			10.14	300

Action: The NBO moves from 10.15 to 10.14

Result: The Primary Peg Sell Order is given the new NBO price of 10.14 and rests in the CX2 Book.

6.4.2 Mid Peg

A Mid Peg Order is described in Subsection 6.5 of this Guide.

6.4.3 Market Peg

A Market Peg buy/sell order will peg to the best protected ask/bid adjusted by a trading increment as defined by UMIR.

To prevent locked markets, Market Peg orders will book at the best protected bid/ask adjusted passively by a tick increment.

Market Peg Orders can be entered as either displayed or non-displayed. Members have the option of entering a limit price with the order.

Example 1 Market Peg Buy Order

		BID	ASK	
NBBO		10.12	10.15	
CX2 Book	100	10.14		

Action: A Market Peg Buy Order for 100 shares is entered on CX2

Result: The Market Peg Buy Order is given the NBO price minus one trading increment (10.14) and rests in the CX2 Book

Updated Book

		BID	ASK	
NBBO		10.14	10.17	
CX2 Book	100	10.16		

Action: The NBO moves from 10.15 to 10.17

Result: The Market Peg Buy Order is given the new NBO price minus one trading increment (10.16) and rests in the CX2 Book

Example 2 Market Peg Sell Order

		BID	ASK	
NBBO		10.12	10.15	
CX2 Book			10.13	200

Action: A Market Peg Sell Order for 200 shares is entered on CX2.

Result: The Market Peg Sell Order is given the NBB price plus one trading increment (10.13) and rests in the CX2 Book

Updated Book

	BID	ASK	
NBBO	10.10	10.13	
CX2 Book		10.11	200

Action: The NBB moves to 10.10

Result: The Market Peg Sell Order is given the new NBB price plus one trading increment (10.11) and rests in the CX2 Book

6.4.4 Pegged Offset

A Pegged Offset is an increment/decrement offset of the peg price that allows a pegged order to become more passive or aggressive than the quote to which it is pegged. In the case of Buy Peg Order a peg offset of plus 2 means that the order will peg to the bid plus two cents. In the case of a Sell Peg Order a peg offset of plus 2 means that the order will peg to the offer minus two cents. Peg offsets are not permitted to be added to Mid Peg orders.

Example 1 Primary Peg Buy with a +0.01 increment offset

	BID	ASK	
NBBO	10.10	10.15	
CXC Book	100	10.11	

Action: A Primary Peg Buy Order with a +0.01 offset for 100 shares is entered on CXC.

Result: The Primary Peg Buy Order is given the NBB price plus +0.01 or 10.11 and rests in the CXC Book

Example 2 Primary Peg Sell with a -0.01 decrement offset

	BID	ASK	
NBBO	10.10	10.15	
CXC Book	100	10.14	

Action: A Primary Peg Sell Order with a -0.01 offset for 100 shares is entered on CXC.

Result: The Primary Peg Sell Order is given the NBO price - 0.01 or 10.14 and rests in the CXC Book

6.4.5 Odd Lot Liquidity Providing Order

An Odd Lot Liquidity Providing Order is an order that acts like a primary peg order providing liquidity to Odd Lot orders. Traders have the option of entering a limit price with an OLP order. OLP orders must meet a minimum size requirement as determined by the Exchange. For further information please see Section 10 of this Functionality Guide.

6.4.6 Pegged Order Handling

- **Between 8:00 a.m. and 9:30 a.m.:** Pegged orders are accepted by the Nasdaq Canada System but held until 9:30 a.m. when the orders are booked and become eligible to trade. Multiple pegged orders that are eligible to trade are matched in time priority determined by the time the order was accepted by the Nasdaq Canada System. At 9:30 each Nasdaq Canada Trading Book uses a shotgun style open where orders are processed in the sequence they are received.
- **From 4:00 p.m. to 5:00 p.m.** All pegged orders entered after 4:00 p.m. are rejected. All pegged orders entered in the book before 4:00 p.m. are cancelled.
- When the NBBO is locked or crossed, no pegged order executions are permitted.

6.5 Non-Displayed Orders

6.5.1 Hidden Limit Order

A Hidden Limit Order is a non-displayed limit order that adheres to the same execution priority conditions as other non-displayed order types.

6.5.2 Mid Peg Orders

A Mid Peg Order is a non-displayed order that floats at the midpoint of the NBBO that is calculated and updated in real-time by the Nasdaq Canada System. Unique to this order type, when the NBBO spread is an odd increment, Mid Peg orders will float and be able to execute at half-tick increments. Mid Peg orders provide Members with the option to enter a limit price with the order which can include either a full or half-tick increment. Limit prices entered with Mid Peg orders have no impact on an order's priority standing. A limit price only determines whether or not an order is eligible to trade at a particular price point. The Mid Peg order is an ideal tool for Members to reduce market impact while receiving price improvement opportunities. Adding a pegged offset is not permitted for Mid Peg orders.

Example 1 Mid Peg Buy Orders

		BID	ASK	
NBBO		10.10	10.15	
CX2 Book	100	10.125		

Action: A Mid Peg Buy Order for 100 shares is entered on CX2.

Result: The Mid Peg Buy Order is given the midpoint price of the NBBO or 10.125

Updated Book

		BID	ASK	
NBBO		10.11	10.17	
CX2 Book	100	10.14		

Action: The NBBO moves from 10.10/10.15 to 10.11/10.17

Result: The Mid Peg Buy Order is given the new midpoint price of the NBBO or 10.14 and rests in the CX2 Book

Updated Book

		BID	ASK	
NBBO		10.16	10.17	
CX2 Book	100	10.165		

Action: The NBBO moves from 10.11/10.17 to 10.16/10.17

Result: The Mid Peg Buy Order is given the new midpoint price of the NBBO or 10.165 and rests in the CX2 Book

Mid Peg Order Interaction with M-ELO Orders

Mid Peg Orders that have been posted at the midpoint of the NBBO for the Minimum Resting Time or MRT required for a M-ELO Order to trade (see section 6.5.8 of this Guide for more information about M-ELO Orders and their Minimum Resting Time or MRT) are also able to interact with M-ELO Orders. Mid Peg Orders will interact with other Mid-Peg Orders first before interacting with M-ELO Orders. Where there are two or more Mid-Peg Orders in the order book that are eligible to trade with a M-ELO Order after the M-ELO Order meets the MRT and becomes available to trade, these orders will be matched in the sequence of time priority – the Mid Peg Order that was entered first will be given matching priority.

All Mid Peg Orders are eligible to match with M-ELO Orders after they have been posted at the midpoint of the NBBO for the duration of the MRT. However, should a Member want to opt-out of interacting with a M-ELO Order they can do so by entering the Mid Peg Order with a Post-Only condition. Only non Post-Only Mid-Peg Orders and M-ELO Orders will be eligible to match with M-ELO Orders.

All trades between M-ELO Orders and Mid-Peg Orders are identified on the CXC Market Data Feed as M-ELO trades and the M-ELO trading fee schedule apply to these trades.

EXAMPLES

For each example below the NBBO is \$10.00 – \$10.01, all Mid-Peg Orders are entered without a Post-Only condition and all orders are entered on the CXC Trading Book.

EXAMPLE 1: Mid-Peg Order Fully Executes Against a M-ELO Order

<u>Order Number</u>	<u>Order Type</u>	<u>Side</u>	<u>Order Qty</u>	<u>Order Price</u>	<u>Order Time</u>
<u>1</u>	<u>M-ELO</u>	<u>S</u>	<u>100</u>	<u>\$10.005</u>	<u>T</u>

Actions:

1. A Mid-Peg Order is entered to buy 100 shares @ \$10.005 at time T+5ms (Order #2)
2. Order #1 becomes eligible to trade at T+10ms
3. Order #2 becomes eligible to trade against M-ELO at T+15ms
4. At time T+15ms Order #2 matches with Order #1 for 100 shares at \$10.005

EXAMPLE 2: Multiple Mid-Peg Orders Execute Against M-ELO and Mid-Peg Orders

<u>Order Number</u>	<u>Order Type</u>	<u>Side</u>	<u>Order Qty</u>	<u>Order Price</u>	<u>Order Time</u>
<u>1</u>	<u>M-ELO</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T</u>
<u>2</u>	<u>M-ELO</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T+1s</u>

Actions:

1. Order #1 becomes eligible to trade at T+10ms
2. Order #2 becomes eligible to trade at T+1.01s
3. A Mid-Peg Order is entered to sell 5,000 shares @ \$10.005 at time T+2s (Order #3)
4. Order #3 becomes eligible to trade at T+2.01s
5. Order #1 matches with Order #3 for 5,000 shares at 10.005

<u>Order Number</u>	<u>Order Type</u>	<u>Side</u>	<u>Order Qty</u>	<u>Order Price</u>	<u>Order Time</u>
<u>1</u>	<u>M-ELO</u>	<u>B</u>	<u>5,000</u>	<u>\$10.005</u>	<u>T</u>
<u>2</u>	<u>M-ELO</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T+1s</u>
<u>4</u>	<u>Mid-Peg</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T+3s</u>

Actions:

6. A Mid-Peg Order is entered to sell 10,000 shares @ \$10.005 at time T+4s (Order #5)
7. Order #4 matches with Order #5 for 10,000 shares at 10.005

EXAMPLE 3: Multiple M-ELO Orders Execute Against Multiple Mid-Peg Orders

<u>Order Number</u>	<u>Order Type</u>	<u>Side</u>	<u>Order Qty</u>	<u>Order Price</u>	<u>Order Time</u>
<u>1</u>	<u>Mid-Peg</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T</u>
<u>2</u>	<u>Mid-Peg</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T+1s</u>

Actions:

1. Order #1 becomes eligible to trade against M-ELO orders at T+10ms
2. Order #2 becomes eligible to trade against M-ELO orders at T+1.01s
3. A M-ELO Order is entered to sell 5,000 shares @ \$10.005 at time T+2s (Order #3)
4. Order #3 becomes eligible to trade at T+2.01s
5. Order #1 matches with Order #3 for 5,000 shares at 10.005

<u>Order Number</u>	<u>Order Type</u>	<u>Side</u>	<u>Order Qty</u>	<u>Order Price</u>	<u>Order Time</u>
<u>1</u>	<u>Mid-Peg</u>	<u>B</u>	<u>5,000</u>	<u>\$10.005</u>	<u>T</u>
<u>2</u>	<u>Mid-Peg</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T+1s</u>

Actions:

5. A M-ELO Order is entered to sell 10,000 shares @ \$10.005 at time T+3s (Order #4)
6. Order #4 becomes eligible to trade at T+3.01s
7. Order #1 matches with Order #4 for 5,000 shares at 10.005
8. Order #3 matches with Order #4 for 5,000 shares at 10.005

EXAMPLE 4: Mid-Peg Order Executes Against another Mid-Peg Order Entered after a M-ELO Order

<u>Order Number</u>	<u>Order Type</u>	<u>Side</u>	<u>Order Qty</u>	<u>Order Price</u>	<u>Order Time</u>
<u>1</u>	<u>Mid-Peg</u>	<u>B</u>	<u>10,000</u>	<u>\$10.005</u>	<u>T</u>

Actions:

1. A M-ELO Order is entered to sell 1,000 shares @ \$10.005 at time T+5ms (Order #2)
2. A Mid-Peg Order is entered to sell 100 shares @ \$10.005 at time T+10ms (Order#3)
3. Order #3 matches with Order #1 for 100 shares at \$10.005.
4. Order #2 becomes eligible to trade at T+15ms
5. Order #2 matches with Order #1 for 1,000 shares @ \$10.005

Repricing Sequence of two Locking Mid Peg Orders

Because Mid Peg Orders peg to the midpoint price of the NBBO, two contra-side locking Mid Peg orders (as a result of either two contra-side Post Only Mid Peg Orders being entered or a non-Post Only Mid Peg Order being entered followed by a contra-side Post Only Mid Peg Order) will be repriced when there is a change in the NBBO.

The following sequence of events occurs when the midpoint of the NBBO changes to a lower price:

- A buy Mid Peg Orders will be repriced before a sell Mid Peg Order to the lower midpoint price;
- A sell Mid Peg Order will then be repriced after the buy Mid Peg Order to the lower midpoint price.

Similarly, the following sequence of events occurs by the Nasdaq Canada System when the midpoint of the NBBO changes to a higher price:

- A sell Mid Peg Order will be repriced before a buy Mid Peg Order to the higher midpoint price;
- The buy Mid Peg Order will then be repriced after the sell Mid Peg Order to the higher midpoint price.

This sequence of logic can result in a non-Post Only Mid Peg order entered before a contra-side Post Only Mid Peg executing against this order.

The following sequence of events has occurred for each of the examples below:

- The midpoint of the NBBO is 10.025
- A Mid Peg buy order is entered as non-Post Only
- A Mid Peg sell Post-Only order is entered following the entry of the Mid Peg buy order locking the market at the midpoint price

Example 1 – Changes in the NBBO resulting in a more passively priced midpoint

Original Order Book and Midpoint

	BID	ASK	MidPoint Price
NBBO	10.00	10.05	10.025
	Mid Peg Buy 10.025	10.025 Mid Peg sell Post Only	

Action: Protected Best Bid moves to a lower price of 9.99 resulting in a new midpoint price of 10.02

New Order Book and Midpoint

	BID	ASK	MidPoint Price
NBBO	9.99	10.05	10.02

Actions The Mid Peg buy order is repriced first at the new midpoint price of 10.02

The Mid Peg sell Post Only order is repriced second at the new midpoint price of 10.02

Result No trade (and resulting locked market) as the Mid Peg sell Post Only order will not become active after being repriced at the new midpoint after the Mid Peg buy order

Example 2 – Changes in the NBBO resulting in a more aggressively priced midpoint

Original Order Book and Midpoint

	BID	ASK	MidPoint Price
NBBO	10.00	10.05	10.025
	Mid Peg Buy 10.025	10.025 Mid Peg sell Post Only	

Action: Protected Best Offer moves to a higher price of 10.06 resulting in a new midpoint price of 10.03

New Order Book and Midpoint

	BID	ASK	MidPoint Price
NBBO	10.00	10.06	10.03

Actions The Mid Peg sell Post Only order is repriced first at the new midpoint of 10.03

The Mid Peg buy order is repriced second at the new midpoint of 10.03

Result An execution occurs as the Mid Peg buy Post Only order becomes active after being repriced at the new midpoint after the Mid Peg sell Post Only.

6.5.3 Minimum Price Improvement Order

A Minimum Price Improvement Order (MPI) is an order designed to provide Members price improvement over the bid/ask spread. The MPI is a primary peg order with an offset that is one tick increment more aggressive than the NBBO or will trade at the midpoint of the NBBO if the spread is one tick wide (MPI Price). The order can be entered with a limit price. MPI orders follow the order handling procedures described in Subsection 6.4.5 of this Guide.

Example

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	

Action: A 100 share MPI buy order is entered on CXD

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CXD	100	10.11	10.15	

Result: Because the NBBO is 5 cents or 5 standard trading increments wide, the MPI buy order will float at the MPI Price that is one tick increment better than the NBB or 10.11 in this example

Action: The NBB moves from 10.10 to 10.12

	BID Size	BID	ASK	Ask Size
NBBO		10.12	10.15	
CXD	100	10.13	10.15	

Result: Because the NBB has moved to 10.12, the MPI order is re-priced by one tick increment more aggressive to the new MPI Price of 10.13

Action: The NBB moves from 10.12 to 10.14

	BID Size	BID	ASK	Ask Size
NBBO		10.14	10.15	
CXD	100	10.145	10.15	

Result: Because the NBB has moved to 10.14, the MPI order is re-priced by one half of one tick increment because the NBBO is at a minimum to the new MPI Price of 10.145

6.5.4 Minimum Quantity

A Minimum Quantity Order (MQ), such as All-or-None (AON), is an order that will only execute if there is sufficient demand or supply to satisfy the minimum quantity instruction or the entire order in the case of

AON. If the remaining shares of a partially filled MQ is less than the original MQ instruction the remaining quantity will become the new MQ instruction.

Example 1

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.14	
CXD Buy Order 1	1,000	10.12		
CXD Buy Order 2	1,000	10.12		
CXD Buy Order 3	500	10.12		
Total Bid Size	(2,500)			

Action: A MQ sell order for 5,500 shares is entered on CXD at 10.12 with a minimum quantity specified of 2,500 shares.

Result: The aggregate of all buy orders on CXD at 10.12 (2,500 shares) meets the minimum quantity specified for the MQ order therefore resulting in a trade of 2,500 shares at 10.12. The remaining size of the MQ order is offered at 10.12.

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.14	
CXD			10.12	3,000 (MQ)

Example 2

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.14	
CXD Buy Order 1	1,000	10.12		
CXD Buy Order 2	1,000	10.12		
Total Bid Size	(2,000)			

Action: A MQ order for 5,500 shares is entered at 10.12 with a minimum quantity specified of 2,500 shares.

Result: The aggregate of all buy orders on CXD at 10.12 (2,000 shares) does not meet the minimum quantity specified for the MQ order. Consequently, no trade occurs and the MQ order locks the market at 10.12 in the dark.

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.14	
CXD Buy Order 1	1,000	10.12	10.12	5,500 (MQ)
CXD Buy Order 2	1,000	10.12		
Total Bid Size	(2,000)			

Example 3

BID Size	BID	ASK	Ask Size

NBBO		10.10	10.14	
CXD Buy Order 1	1,000	10.12	10.12	5,500 (MQ)
CXD Buy Order 2	1,000	10.12		
Total Bid Size	(2,000)			

Action: Using the order book from Example 2 reproduced above a buy order is entered on CXD for 1,000 at 10.12.

Result: The aggregate of all buy orders on CXD at 10.12 (3,000 shares) now exceeds the 2,500 minimum quantity specified for the MQ order resulting in a trade of 3,000 shares at 10.12. This leaves a quantity of 2,500 remaining for the MQ order which is offered at 10.12.

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.14	
CXD			10.12	2,500 (MQ)

Example 4

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.14	
CXD			10.12	2,500 (MQ)

Action: Using the order book from Example 3 and reproduced above a buy order is entered for 2,500 on CXD at 10.12.

Result: The buy order for 2,500 meets the 2,500 minimum quantity specified for the MQ order resulting in an execution of the remaining 2,500 shares at 10.12.

6.5.5 Minimum Quantity At The Touch

The Minimum Quantity at the Touch (MQ ATT) is an active order which specifies a minimum size quantity that must be satisfied by the aggregate of contra-side resting orders at the NBBO (at the touch) in order to trade, after all other better priced orders have been displaced in the CXD Trading Book. The minimum size requirement is only required to be met by orders posted at the NBBO; the MQ ATT will trade against any sized order posted at a price level that is better than the NBBO. If the MQ ATT minimum size quantity is not met by the aggregate share size at the NBBO after all other better prices orders have been displaced the order will be cancelled back.

Members are able to customize the minimum size quantity of MQ ATT orders to meet their trading objectives. MQ ATT orders can only include multiples of Board Lots. If the remaining number of shares of an MQ ATT order becomes less than the minimum size quantity specified by the order, the minimum size quantity will become amount of shares remaining. Execution of MQ ATT orders is only available at the NBBO if the size of the MQ ATT order meets the minimum size requirements of CIRO's Dark Rule Framework. If the MQ ATT order does not meet CIRO's minimum size requirement the order will be cancelled back.

Example 1:

	BID Size	BID	ASK	ASK Size
NBBO		10.10	10.13	

CXD Book			10.11	500
			10.12	500
			10.13	5000
			10.13	5000
Total Ask Size at NBBO				(10,000)

Action: MQ ATT buy order is entered for 10,000 shares with a 10.13 limit price and a 6000 share minimum size requirement.

Result: The order executes against the 500 shares offered at 10.11 and against the 500 shares offered at 10.12 leaving 9,000 shares remaining. Because there is sufficient liquidity at 10.13 to satisfy the minimum size requirement of 6,000 and the residual size of the order, the remaining 9,000 shares are executed at 10.13.

Example 2:

	BID Size	BID	ASK	ASK Size
NBBO		10.10	10.13	
CXD Book			10.11	500
			10.12	500
			10.13	3,000
			10.13	2,000
Total Ask Size at NBBO				(5,000)

Action: MQ ATT buy order is entered for 10,000 shares with a 10.13 limit price with a 6000 share minimum size requirement.

Result: The order executes against the 500 shares offered at 10.11 and against the 500 shares offered at 10.12 leaving 9,000 shares remaining. Because there is not sufficient liquidity at 10.13 to satisfy the MQ ATT minimum size requirement of 6,000 shares (there are only 5,000 shares available) the remaining 9,000 shares are cancelled back.

Example 3:

	BID Size	BID	ASK	ASK Size
NBBO		10.10	10.13	
CXD Book			10.11	2000
			10.12	2500
			10.13	3,000
			10.13	2,500
Total Ask Size at NBBO				(5,500)

Action: MQ ATT buy order is entered for 10,000 shares with a 10.13 limit price and a 6000 share minimum size requirement.

Result: The order executes against the 2000 shares offered at 10.11 and against the 2500 shares offered at 10.12 leaving 5,500 shares remaining. Because the residual size of the order is less than the minimum size requirement (6,000 shares) the minimum size becomes the size of the order (5,500 shares). There is sufficient liquidity at 10.13 to satisfy the new MQ ATT minimum size requirement of 5,500 which executes at 10.13.

6.5.6 Minimum Acceptable Quantity

A Minimum Acceptable Quantity Order (MAQ) is an order which specifies a minimum size quantity to trade against on an order-by-order basis. For example a MAQ to buy 10,000 shares with a 1,000 share minimum size quantity will only trade against contra side orders of 1,000 shares or more.¹⁰ If the remaining amount of shares of a MAQ is less than the minimum size quantity specified, the minimum quantity will become the remaining amount of shares. MAQ orders are hidden on a Trading Book.

Example

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CXD	10,000	10.12	10.15	

Action: A MAQ order for 10,000 shares is entered at 10.12 with a minimum quantity specified of 1,000 shares

Action: A sell order for 2,000 shares is entered at 10.10.

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CXD	8,000	10.12	10.15	

Result: The sell order for 2,000 shares executes against the MAQ because the order size exceeds the minimum size quantity specified with the MAQ order. The remaining shares of the order decrease to 8,000 shares.

Action: A sell order for 900 shares is entered at 10.11.

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CXD	8,000	10.12	10.11	900

¹⁰ A MAQ will not trade against a lit order if the trade would result in a violation of a trading books order matching priority.

Result: The sell order for 900 shares does not meet the minimum size quantity specified with the MAQ order so the order does not execute. The sell order is posted at 10.11 (crossing the hidden MAQ order).

Action: A sell order for 10,000 shares is entered at 10.11.

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CXD			10.11	2900

Result: The sell order for 10,000 exceeds the minimum size quantity specified with the MAQ order so the order trades against the 8,000 shares at 10.12 with the remaining 2,000 shares posted at 10.11 alongside the 900 shares previously entered.

6.5.7 Minimum Acceptable Quantity at the Touch

The Minimum Acceptable Quantity at the Touch (MAQ ATT) is an active order which specifies a minimum size quantity that must be met by individual contra-side resting orders at the NBBO (at the touch) in order to trade, after all other better priced orders have been displaced in the CXD Trading Book. The minimum size requirement is only required to be met by individual orders posted at the NBBO; the MAQ ATT will trade against any sized order that is posted at a price level that is better than the NBBO. If the MAQ ATT minimum size quantity is not met at the NBBO after all other better priced orders have been displaced the order will be cancelled back to the Member.

Members are able to customize the minimum size quantity of MAQ ATT orders to meet their trading objectives. MAQ ATT orders can only include multiples of Board Lots. If the remaining number of shares of an MAQ ATT order becomes less than the minimum size quantity specified by the order, the minimum size quantity will become the number of remaining shares. Execution of MAQ ATT orders is only available at the NBBO if the size of the MAQ ATT order meets the minimum size requirement set by CIRO.¹¹ If the order does not meet CIRO's minimum size requirement the order will be cancelled back.

Example 1:

	BID Size	BID	ASK	ASK Size
NBBO		10.10	10.13	
CXD Book			10.11	500
			10.12	500
			10.13	6000
Total Ask Size at NBBO				(12,000)

¹¹ CIRO's Minimum Size Requirements is defined as an order for more than 50 standard trading units and has a value of \$30,000 or has a value of more than \$100,000.

Action: MAQ ATT buy order is entered for 10,000 shares with a 10.13 limit price and a 6000 share minimum size requirement.

Result: The order executes against the 500 shares offered at 10.11 and against the 500 shares offered at 10.12 leaving 9,000 shares remaining. Because there is a resting order at 10.13 that satisfies the order's minimum size requirement of 6,000, 6,000 shares of the order are executed at 10.13 and the remaining 3,000 shares are cancelled back.

Example 2:

	BID Size	BID	ASK	ASK Size
NBBO		10.10	10.13	
CXD Book			10.11	500
			10.12	500
			10.13	5,000
			10.13	5,000
Total Ask Size at NBBO				(10,000)

Action: MAQ ATT buy order is entered for 10,000 shares with a 10.13 limit price with a 6000 share minimum size requirement.

Result: The order executes against the 500 shares offered at 10.11 and against the 500 shares offered at 10.12 leaving 9,000 shares outstanding. Because there is not a resting order at 10.13 that satisfies the order's minimum size requirement of 6,000, the order is cancelled back.

Example 3:

	BID Size	BID	ASK	ASK Size
NBBO		10.10	10.13	
CXD Book			10.11	2000
			10.12	2500
			10.13	6,000
			10.13	6,000
Total Ask Size at NBBO				(12,000)

Action: MAQ ATT buy order is entered for 10,000 shares with a 10.13 limit price with a 6000 share minimum size requirement.

Result: The order executes against the 2000 shares offered at 10.11 and against the 2500 shares offered at 10.12 leaving 5,500 shares. Because the residual size of the order is less than the minimum size requirement the minimum size becomes the size of the order (5,500

shares). There is sufficient liquidity at 10.13 to satisfy the new MAQ minimum size requirement of 5,500 which executes at 10.13.

6.5.8 Seek Price Improvement Order

An SPI order is an active order that will execute against dark resting orders at prices up to (or down to) and including orders one tick increment inside of the opposite side of the NBBO (or up to the SPI order's limit price if the limit price is less aggressive). When the NBBO spread is one tick increment wide, the SPI order will execute against dark resting orders at the mid-point of the NBBO. Any shares of an SPI order that are not immediately executed will be cancelled back to the Member.

Example 1:

	BID Size	BID	ASK	ASK Size
NBBO		10.00	10.05	
CXD Book	100	10.02		
	500	10.01		
	500	10.00		

Action: An SPI sell order for 1,000 shares is entered with a limit price of 10.00.

Result: The order executes against the 100 shares offered at 10.02 and against the 500 shares offered at 10.01 and the remaining 400 shares of the SPI order are cancelled back.

Example 2:

	BID Size	BID	ASK	ASK Size
NBBO		10.00	10.01	
CXD Book			10.005	100
			10.01	500

Action: An SPI buy order for 1,000 shares is entered with a limit price of 10.01.

Result: The order executes against the 100 shares offered at 10.005 and the remaining 900 shares of the SPI order are cancelled back.

6.5.9 Midpoint Extended Life Order

The M-ELO is a non-displayed order that rests at the midpoint of the NBBO. Unlike a Mid Peg order, the M-ELO order must meet a minimum resting time requirement in the order book before it becomes eligible to trade (Minimum Resting Time or MRT). M-ELO orders are only eligible to trade against other M-ELO orders and Mid Peg orders that have been posted at the midpoint of the NBBO for the MRT (for more information about Mid Peg Order interaction with M-ELO please see subsection 6.4.2 of this Guide). An execution

between two M-ELO orders will only occur after each M-ELO order has met the MRT. Modifications made to an M-ELO order (other than a reduction in quantity) will result in the MRT being reset. M-ELO orders can be cancelled at any time including the time before the MRT has been satisfied and the M-ELO order becomes eligible to trade. M-ELO executions will only occur at the midpoint of the NBBO.

Similar to Mid-Peg orders, Members have the option to enter a limit price when entering an M-ELO that can be denominated either as a full or a half-tick increment. In the case where an M-ELO is entered with a limit price, the M-ELO will only be eligible to trade if the midpoint of the NBBO on a security is within the limit price of the order. Adding a pegged offset is not permitted for M-ELO orders.

M-ELO orders are available to trade during regular trading hours between 9:30 a.m. and 4:00 p.m. M-ELO orders are accepted by the Nasdaq Canada System between 8:00 a.m. and 9:30 a.m. but held until 9:30 a.m. when the orders are booked and become eligible to trade after the MRT has been satisfied. Open M-ELO orders are cancelled at 4:00 p.m. M-ELO orders will not trade if the NBBO for a security is locked or crossed.

M-ELO orders can be entered with or without attribution by selecting the anonymous order marker. Matching priority for M-ELO orders is based on Broker/Time priority. Unique to M-ELO orders, broker priority is applicable to both anonymous and attributed orders.

Example 1:¹²

		BID	ASK	
NBBO (midpoint 10.005)		10.00	10.01	
CXC Book	M-ELO (500)	10.005		

Action: M-ELO sell order is entered in the CXC Trading Book for 500 shares

Result: The M-ELO sell order will execute against the M-ELO buy order for 500 shares after it meets the MTR

Example 2:

		BID	ASK	
NBBO (midpoint 10.005)		10.00	10.01	
CXC Book	M-ELO (500)	10.005		

Action: M-ELO sell order is entered in the CXC Book for 500 shares

¹² Mid Peg M-ELO orders are used in all examples.

M-ELO buy order is cancelled before the M-ELO sell order meets the MRT

		BID	ASK	
NBBO (midpoint 10.005)		10.00	10.01	
CXC Book			10.005	M-ELO (500)

Result: The M-ELO sell order will not execute against the M-ELO buy order because it did not meet the MRT prior to the M-ELO buy order being cancelled.

Example 3:

		BID	ASK	
NBBO (midpoint 10.005)		10.00	10.01	
CXC Book	M-ELO (500)	10.005		

Action: A sell order is entered in the CXC Book with a limit price of \$10.00 moving the NBBO from 10.00 – 10.01 to 9.99 – 10.00

		BID	ASK	
NBBO (midpoint 9.995)		9.99	10.00	
CXC Book	M-ELO (500)	9.995		

Result: The sell limit order will not interact with the M-ELO. M-ELO orders are only eligible to interact with other M-ELO orders.

The sell limit order will establish a new NBBO of 9.99 – 10.00.

The M-ELO buy order will be repriced to the midpoint of the new NBBO (9.995).

Action: A sell M-ELO is entered on CXC for 500 shares.

Result: The sell M-ELO will execute against the buy M-ELO at 9.995 after it meets the MRT

Example 4:

		BID	ASK	

NBBO (midpoint 10.01)		10.00	10.02	
CXC Book	M-ELO LP 10.01 (500)	10.01		

Action: A buy order is entered on the CXC Book with a limit price of 10.01 moving the NBBO to 10.01 – 10.02 and a new midpoint price of 10.015

		BID	ASK	
NBBO (midpoint 10.01)		10.01	10.02	
CXC Book	M-ELO LP 10.01 (500)	10.01		

Result: The M-ELO buy order will not be repriced to the new midpoint (10.015) because it is above its limit price. The buy M-ELO order will remain in the trading system at its limit price of 10.01 but will not be eligible to trade.

Action: A sell Mid-Peg M-ELO is entered for 500 shares.

		BID	ASK	
NBBO (midpoint 10.01)		10.01	10.02	
CXC Book	M-ELO LP 10.01 (500)	10.01	10.015	Mid-Peg M-ELO (500)

Result: The sell M-ELO will float at the midpoint (10.015)

The buy M-ELO will continue to remain in the trading system at its limit price (10.01)

		BID	ASK	
NBBO (midpoint 10.005)		10.00	10.01	
CXC Book	M-ELO LP 10.01 (500)	10.005	10.005	Mid-Peg M-ELO (500)

Result: The buy M-ELO will be repriced and at the new midpoint (10.005) and become eligible to trade because this midpoint price is below its limit price.

The sell M-ELO will be repriced to the new midpoint (10.005) and will execute against the buy M-ELO order.

6.5.10 PureStream Order

A description of a PureStream Order can be found in Section 7 of this Guide.

6.6 Time in Force Conditions

6.6.1 Day

A Day Order will remain posted on the Nasdaq Canada Trading Book where it is entered for the duration of the Trading Day or until cancelled. At the end of the Trading Day all outstanding, unfilled Day orders will be cancelled.

6.6.2 Immediate or Cancel (IOC)

An IOC Order is an order for which any portion of the order that is not filled immediately is cancelled. In the case where a qualifying IOC Order is entered in the CXD Conditional Order Book, the IOC Order may be held up for the time of the CXD Conditional Order firm-up period if there is a contra-side CXD Conditional Order to trade against.

6.6.3 Fill or Kill (FOK)

A FOK Order must execute immediately in its entirety otherwise, the entire order is cancelled. No partial fills are allowed.

6.6.4 Stream or Kill (SOK)

A PureStream Order that must be paired immediately in a Stream otherwise the order will be cancelled.

7 PureStream Orders

PureStream is supported on the CXD Trading Book. PureStream Orders are paired with one another based on a specified liquidity transfer rate (or LTR) instead of a specific price. When orders are paired, Streams are established and are held by the system until a Reference Trade occurs (see definition of Reference Trade below). When a Reference Trade occurs, the Trading System will calculate Volume Considered based on the LTR of a Stream multiplied by the volume of a Reference Trade. When the aggregate of Volume Considered (LTR Calculated Volume) meets or exceeds a Minimum Stream Quantity (MSQ) a trade will be printed. The size of the MSQ is determined by the Exchange and can either be applied on a security-by-security basis or across the universe of all securities.

When the LTR Calculated Volume meets or exceeds the MSQ a trade will be printed at the Volume Weighted Average Price of the LTR Calculated Volume (LTR Calculated Price). The trade that is printed when the MSQ is met or exceeded will be for the size of the LTR Calculated Volume at the LTR Calculated Price (LTR Calculated Match).

If the size of a Reference Trade reported results in the LTR Calculated Volume exceeding the size of a Board Lot, the system will print 99 shares and carry forward any remaining shares not traded as a new LTR Calculated Volume at their LTR Calculated Price. When other Reference Trades are reported resulting in additional Volume Considered that meet or exceed the MSQ another LTR Calculated Match will be printed.

When the volume from a Reference Trade result in Volume Considered that is equal to or greater than a Board Lot, any LTR Calculated Volume calculated by the Trading System before the Reference Trade is reported will print at the LTR Calculated Price immediately prior to the Board Lot or Mixed Lot printing at its Reference Price. By trading the LTR Calculated Volume first there is assurance that the Board Lot or Mix Lot trade does not trade-through a Protected Bid or Protected Offer and does not set a Last Sale Price outside the NBBO.

Finally, a trade will be printed for the LTR Calculated Volume at the LTR Calculated Price if a Stream is terminated.

Matches generated from paired orders in a Stream are identified with a unique liquidity marker that is disseminated in CXD's market data feed and provided to the Information Processor in accordance with National Instrument 21-101.

7.1 Order Type Features

7.1.1 Order Type Offered on CXD

PureStream is made available on the CXD Trading Book during CXD's operational hours. Orders are eligible to pair, and in turn match, during CXD's trading session between 9:30 a.m. to 4:00 p.m. (EST). Orders can be entered as early as 7:00 a.m. where they are held by the system until the open, at which time they are paired into Streams based on PureStream's order Pairing Priority methodology. Orders paired in a Stream are matched starting with the first Reference Trade for a security after the security opens for trading on the listing exchange.

7.1.2 Liquidity Rate Parameters

PureStream Orders can be entered using a variety of predefined LTR parameters. Each LTR parameter specifies the range of acceptable LTRs at which matches will be generated in response to Reference Trades. The LTR of any individual Stream depends on the LTR parameters specified by the orders that are paired.

In addition to the predefined LTR parameters made available, Members are also able to enter orders with a custom LTR. A Member choosing to use a custom LTR Order must specify a minimum and maximum LTR rate where the maximum LTR upper limit cannot exceed 500%.

Liquidity Rate Parameters

- 5 – 15% (15% desired – willing to trade a minimum of 5%)
- 5 – 30% (30% desired – willing to trade a minimum of 5%)
- Mach Two (200% desired – willing to trade a minimum of 10%)
- Custom % (range determined by Member but cannot exceed 500%)

7.1.3 Attribution

Members have the option to enter PureStream Orders as either attributed or unattributed (anonymous). Orders are attributed by default however Members can elect to enter orders without attribution by selecting the anonymous order marker. All orders (attributed or unattributed) are eligible for broker preferencing.

7.2 Order Matching Characteristics

7.2.1 Streams

Eligible contra-side orders are paired with one another based on PureStream's Pairing Priority methodology which in turn creates Streams. Multiple Streams can be established and held by the system at any one time and a PureStream Order can be simultaneously paired with more than one contra-side order in multiple Streams. After PureStream Orders are paired in a Stream, a Stream will continue to match volume without interruption (the stream will persist) until one of the following events occurs:

- An order in the Stream is cancelled;
- The remaining quantity of an order in the Stream is fully matched;
- A Reference Trade is reported at a price above/below the limit price specified for an order;
- A contra-side order entered by the same broker is given pairing priority (broker preferencing).

7.2.2 Reference Trades

After PureStream Orders are paired in a Stream, they are ready to match in response to a Reference Trade.

A Reference Trade is defined as:

- Any trade of at least one standard trading unit of a particular security displayed in a consolidated market display other than a reported trade resulting from a match between two PureStream Orders (subject to certain exceptions);¹³

¹³ Trade exceptions that are not included in the definition of a Reference Trade are:

- Basis Order
- Call Market Order
- Closing Price Order
- Special Terms Order (as defined by UMIR) unless the Special Terms Order has executed with an order or orders other than a Special Terms Order or
- Volume-Weighted Average Price Order

Reference Trades include intentional and specialty crosses subject to certain exceptions listed in UMIR and include trades from protected and unprotected marketplaces as defined in National Instrument 23-101 *Trading Rules*.¹⁴

When a Reference Trade is reported by a marketplace, PureStream Orders paired in a Stream are matched based on the LTR of that Stream. If there is more than one Stream, each Stream will generate its own independent match that will be printed simultaneously. It is therefore possible for a PureStream Order that is paired in multiple Streams to generate multiple matches in response to a Reference Trade – one based on each Stream. Depending on the size of the Reference Trade and the LTR of a Stream, a match could result in a volume that is either a multiple of a Board Lot, a Mixed Lot or an Odd Lot.

7.3 Order Type Features

7.3.1 Minimum Order Size

All PureStream Orders must be entered in Board Lot multiples and meet a minimum order size as determined by the Exchange. The PureStream Minimum Order Size will be published by Notice by the Exchange.

7.3.2 Minimum LTR

Members can specify a minimum LTR parameter that must be met by a contra-side order in order for it to be eligible to pair with a Custom LTR Order. For all other PureStream Orders entered with a predetermined LTR parameter, the lower range of the LTR parameter serves as the minimum LTR constraint.

7.3.3 Limit Price

Members can specify a limit price for a PureStream Order either above the current price for a security in the case of a buy order or below its current price in the case of a sell order and beyond which the order will not trade. Limit prices can be entered as either a full tick or half tick increments.

7.3.4 Marketability Threshold

A marketability threshold for each individual security is used by the Trading System to evaluate whether an order is eligible (or marketable) to be paired in a Stream. For an order to be eligible to pair, its limit price must be better than the NBBO and the amount of the marketability threshold. In the case of a buy order the order's limit price must be higher than the NBO and the amount of the marketability threshold. In the case of a sell order the order's limit price must be lower than the NBB and the amount of the marketability threshold.

For example, if the NBBO was \$9.98 – \$10.00 and the marketability threshold was \$0.01 a buy order entered with a limit price of \$10.00 would not be eligible to pair as its limit price is below the NBO and the amount of the marketability threshold ($\$10.00 + \$0.01 = \$10.01$). However, if a sell order was entered with a limit price of \$9.97 it would be eligible to pair because its limit price is lower than the NBB and the amount of the marketability threshold ($\$9.98 - \$0.01 = \$9.97$).

By requiring that the limit price of a PureStream Order is better than the contra-side of the NBBO by the marketability threshold, a buffer is created to ensure that streams will be sustained if the NBBO changes.

¹⁴ “protected marketplace” means a marketplace that displays “protected orders” as defined under the Trading Rules. An unprotected marketplace is a marketplace that does not display “protected orders.”

Marketability Thresholds are defined in minimum tick increments and determined by the Exchange.

7.3.5 Conditional Orders

Members can use a conditional parameter that can be added to any PureStream order allowing the Member to potentially source liquidity from multiple trading venues at the same time without the risk of an overfill. Whereas other contra-side PureStream Orders will immediately pair with one another when eligible to establish a Stream, a Conditional Order does not require a firm commitment to trade. Instead, when it is possible for a Conditional Order to be paired with one or more PureStream Orders, a firm-up request is sent to the Member and the Member is given a short time window in which to act on the firm-up request by entering a new order that is then considered firm. When a new order is sent in response to a firm-up request, a Member is able to modify the order instructions which may or may not impact the order's pairing priority or opportunity to pair. If the Member does not respond to a firm-up request in the time window provided, the order will be rejected. Conditional Orders can be paired with both Conditional Orders and other orders. Because there is a time window provided to a Member in which they must respond to a firm-up request, there is a possibility that the eligible contra-side order triggering the firm-up request will no longer be available when the firm order is received. The cost of missing an opportunity to pair must be considered by the Member when using a Conditional Order and must be weighed against the benefit of being given time to consider whether or not to make a Conditional Order firm.

To ensure Members are entering PureStream Conditional orders with the legitimate intention of matching, the Exchange monitors the number and percentage of firm-up requests that do not result in a firm order being entered (fall down). Monitoring is performed on the Trader ID level and action may be taken to prevent a Trader ID from continuing to use a conditional parameter on future orders if the number or percentage of firm-up requests that are not acted upon exceeds a parameter as determined by the Exchange.

7.3.6 Time in Force Conditions

PureStream Orders can be entered with the following three Time-in-Force conditions (limited in certain circumstances as defined below):

- **Day:** A Day Order will remain posted for the duration of the Trading Day or until cancelled. At the end of the Trading Day all outstanding, unfilled Day orders will be cancelled.
- **Stream-or-Kill:** Similar to an IOC order, a SOK order requires an immediate outcome to take place when the order is entered, or the order will be cancelled back. In contrast to an IOC order where an immediate execution must result on order entry, in the case of an SOK order the order must immediately be paired into a Stream. An SOK order will not rest in the order book if it is not paired immediately upon entry and will be cancelled back should it no longer be paired in a Stream. As a result of the potential delay created by a firm-up request being sent in response to a Conditional Order, a SOK order will only be eligible to pair with a Conditional Order if the Member indicates the intention to do so. Otherwise, contra-side Conditional Orders will not be considered for pairing when an SOK order is entered.

7.4 PureStream Order Pairing Priority

PureStream orders are paired into Streams based on the following order characteristics:

- Member (an order will be paired with another Member order first);
- Liquidity Transfer Rate (or upper limit of a LTR parameter);

- The size of the order;
- The limit price of the order; and
- The time the order was entered.

This PureStream Order Pairing Priority will be used whenever a new Stream is being established.

7.5 PureStream Examples

7.5.1 Examples of Order Pairing

Example 1 – LTR Priority

Action: Order 1 is entered to buy 50,000 shares with a 5-15% LTR
Order 2 is entered to buy 15,000 shares with a 10-200% LTR

Result: Order 2 is given priority because it has a higher LTR parameter

Example 2 – Size Priority

Action: Order 1 is entered to buy 50,000 shares with a 5-15% LTR
Order 2 is entered to buy 75,000 shares with a 5-15% LTR

Result: Order 2 is given priority because it has a larger order quantity

Example 3 – Limit Price Priority

Action: Order 1 is entered to buy 50,000 shares with a 5-15% LTR and a limit price of \$10.00
Order 2 is entered to buy 50,000 shares with a 5-15% LTR and a limit price of \$10.01

Result: Order 2 is given priority because it has a higher limit price

Example 4 – Time Priority

Action: Order 1 is entered to buy 50,000 shares with a 5-15% LTR at 10:05:00
Order 2 is entered to buy 50,000 shares with a 5-15% LTR at 10:06:00

Result: Order 1 is given priority because it has time priority as it was entered first

Example 5 – Broker Priority

Action: Order 1 is entered to buy 50,000 with a 5-15% LTR by Member 002 at 10:05:00
Order 2 is entered to buy 50,000 shares with a 5-15% LTR by Member 007 at 10:06:00
Order 3 is entered to sell 50,000 shares with a 5-15% LTR by Member 007 at 10:07:00

Result: Order 2 is given priority and pairs with Order 3. Although Order 1 and Order 2 have the same LTR and Order 1 was entered first (time priority) Order 3 was entered by the same Member as Order 2 (Member 007) and therefore is given priority.

7.5.2 Examples of Pairing in Streams

Example 1 – Single Stream

NBBO for Security ABC: \$10.00 – \$10.02

Action: Order #1 entered to buy 10,000 shares with a 30% LTR
Order #2 entered to sell 20,000 shares with a 30% LTR
Order #1 paired with Order #2 in Stream #1 with 30% LTR

Result: Order #1 paired with Order #2 with 30% LTR

Example 2 – Three Orders Matched in 2 Streams

NBBO for Security ABC: \$10.00 – \$10.02

Action: Order #1 entered to buy 20,000 shares with 30% LTR
Order #2 entered to sell 10,000 shares with 15% LTR

Result: Order #1 paired with Order #2 in Stream #1 with 15% LTR
Stream #1: Order #1 (Buy 20,000) paired with Order #2 (Sell 10,000) with 15% LTR

Action: Order #3 entered to sell 6,000 shares with 15% LTR
Order #3 paired with Order #1 in Stream #2 with 15% LTR

Stream #2: Order #1 (Buy 20,000) paired with Order #3 (Sell 6,000) with 15% LTR

7.5.3 Examples of Matches

For clarity examples of each scenario described are provided below. For the purposes of these examples, 70 shares are being used as the MSQ.

A. LTR Calculated Volume meets or exceeds the Minimum Stream Quantity resulting in an LTR Calculated Match

When the LTR Calculated Volume meets or exceeds the size of the MSQ it will generate an LTR Calculated Match for the size of the LTR Calculated Volume at the LTR Calculated Price.

Example 1 – 15% LTR

RT Size	RT Price	RT Time	Volume Considered	LTR Calculated Volume	LTR Calculated Price
100	\$3.00	10.00.00	15	15	\$3.0000
200	\$2.75	10.01.00	30	45	\$2.8333
200	\$2.50	10.02.00	30	75	\$2.7000

In this example the third Reference Trade generates an LTR Calculated Volume that exceeds the 70 share MSQ. The system therefore generates an LTR Calculated Match for 75 shares traded at the LTR Calculated Price of \$2.7000.

Example 2 – 15% LTR

RT Size	RT Price	RT Time	Volume Considered	LTR Calculated Volume	LTR Calculated Price
100	\$3.00	10.00.00	15	15	\$3.0000
200	\$2.75	10.01.00	30	45	\$2.8333
300	\$2.50	10.02.00	45	90	\$2.6667

In this example the third Reference Trade generates an LTR Calculated Volume that exceeds the 70 share MSQ (90 shares). The system therefore generates an LTR Calculated Match for 90 shares traded at the LTR Calculated Price of \$2.6667.

Example 3 – 15% LTR

RT Size	RT Price	RT Time	Volume Considered	LTR Calculated Volume	LTR Calculated Price
100	\$3.00	10.00.00	15	15	\$3.0000
100	\$2.75	10.02.00	15	30	\$2.8750
600	\$2.50	10.05.00	90	120	\$2.6316

In this example the third Reference Trade generates an LTR Calculated Volume that exceeds the MSQ (120 shares). The system therefore generates an LTR Calculated Match of 99 shares at the LTR Calculated Price of \$2.6316 and carries over the residual LTR Calculated Volume of 21 shares with an LTR Calculated Price of \$2.50.

Example 4 – 15% (Continues from Example 2)

RT Size	RT Price	RT Time	Considered Volume	LTR Calculated Volume	LTR Calculated Price
Residual LTR Calculated Volume and Price				21	\$2.5000
200	\$2.75	10.07.00	30	51	\$2.6471
200	\$3.00	10.08.00	30	81	\$2.7778

In this example which continues from Example 3, there is a residual LTR Calculated Volume of 21 shares (120 shares – 99 shares) with an LTR Calculated Price of \$2.50. The second Reference Trade generates an LTR Calculated Volume that exceeds the size of the MSQ (81 shares). The system therefore generates an LTR Calculated Match for 81 shares traded at the LTR Calculated Price of \$2.7778.

B. The Reference Trade Results in a Board Lot or Mixed Lot Increment

When the resulting Volume Considered from a Reference Trade results in a Board Lot or Mix Lot size share increment, the LTR Calculated Volume will print at the LTR Calculated Price first and immediately prior to the Board Lot or Mix Lot being printed at its Reference Price.

Example 5 – Board Lot Sized Reference Price

RT Size	RT Price	RT Time	Considered Volume	LTR Calculated Volume	LTR Calculated Price
100	\$3.00	10.00.00	15	15	\$3.0000
200	\$2.75	10.01.00	30	45	\$2.8333
100	\$2.50	10.02.00	15	60	\$2.75
2000	\$2.55	10.03.00	300		

In this example there is an LTR Calculated Volume of 60 shares when a 2,000 share Reference Trade executes at \$2.55. Given the Stream has an LTR of 15% this will result in a PureStream trade of 300 shares or 3 Board Lots. To ensure that this trade does not trade-through the market or set the Last Sale, the LTR Calculated Volume of 60 shares will execute at the LTR Calculated Price of \$2.75 first followed by the 300 shares will execute at the same price as the Reference Trade or \$2.55.

Example 6 – Mixed Lot Sized Reference Price

RT Size	RT Price	RT Time	Considered Volume	LTR Calculated Volume	LTR Calculated Price
100	\$3.00	10.00.00	15	15	\$3.0000
200	\$2.75	10.01.00	30	45	\$2.8333
100	\$2.50	10.02.00	15	60	\$2.75
1500	\$2.55	10.03.00	225		

In this example there is an LTR Calculated Volume of 60 shares when a 1,500 share Reference Trade executes at \$2.55. Given the Stream has an LTR of 15% this will result in a Pure Stream trade of 225 shares. To ensure this trade does not trade-through the market or establish a new Last Sale Price the LTR Calculated Volume of 60 shares will execute at the LTR Calculated Price of \$2.75 first followed by the 225 shares that will execute at the same price as the Reference Trade or \$2.55.

C. Generating an LTR Calculated Match (Trade) when a Stream is Terminated

An LTR Calculated Match is generated when a Stream is terminated.

Example 7 – 15% LTR

RT Size	RT Price	PO (Buy)	PO (Sell)	Considered Volume	LTR Volume	Calculated	LTR Calculated Price
100	\$3.00	09	79	15	15		\$3.0000
200	\$2.75	09	79	30	45		\$2.8333
100	\$2.50	09	79	15	60		\$2.7500
Action: 09 decides to cancel its buy order							

In this example the LTR Calculated Volume for the orders paired in the Stream (09 buying and 79 selling) is 60 shares with an LTR Calculated Price of \$2.75. Member 09 decides to cancel its buy order. The Stream is cancelled after this happens. An LTR Calculated Match is generated for 60 shares at \$2.75 - the LTR Calculated Volume and LTR Calculated Price at the time of cancellation.

7.5.4 Another Example

Example 1 – PureStream Conditional Order

NBBO for Security ABC: \$10.00 – \$10.02

Action: Order #1 entered by Member 002 to buy 10,000 shares with a 30% LTR as a Conditional Order
Order #2 entered to sell 20,000 shares with a 30% LTR

Result: Firm-up request sent to Member 002

Action: Member 002 responds to firm-up request and enters an order to buy 10,000 shares with a 30% LTR

Result: Stream 1: Order #1 (Buy 10,000) paired with Order #2 (Sell 20,000) with a 30% LTR

8 CXD Conditional Order Book

The CXD Conditional Order Book operates as an independent pool of liquidity on the CXD Trading Book that is separate and distinct from PureStream and the CXD CLOB. Trades executed in the CXD Conditional Order Book are identified with their own unique liquidity marker and are disseminated in CXD's market data feed and provided to the Information Processor in accordance with National Instrument 21-101. The CXD Conditional Order Book also supports its own independent trading fee schedule.

The CXD Conditional Order Book supports Conditional Orders, CXD Connect Orders that meet certain conditions and accepts IOC orders that meet the CXD Conditional Minimum Size (see below). Like Conditional Orders on PureStream today, a CXD Conditional Order does not require a firm commitment to trade from a Member when the order is entered. Instead, a CXD Conditional Order becomes eligible to trade only after a firm-up request has been sent to the Member that entered the order, and the Member has acted on it. Members using a CXD Conditional Order have 100 ms to respond to a firm-up request (the length of the firm-up time can be modified at the discretion of the Exchange). Because of this length of time, the CXD Conditional Order is designed to generally be used by automated trading systems. Qualifying IOC Orders entered in the CXD Conditional Order Book will be held up for the time of the CXD Conditional firm-up period if there is a contra-side CXD Conditional Order that is available to trade against.

The CXD Conditional Order Book supports two types of Conditional Orders; the CXD Conditional Order and the Extended Firm-Up Time Conditional Order (XFT). Like Conditional Orders on PureStream, a CXD or XFT Conditional Order does not require a firm commitment to trade from a Member when the order is entered. Instead, a CXD or XFT Conditional Order becomes eligible to trade only after a firm-up request has been sent to the Member that entered the order and the Member has acted on it.

The difference between the CXD Conditional Order and the XFT Conditional Order is the length of time given to Members to respond to a firm-up request. Whereas the CXD Conditional Order provides a shorter firm-up period and is ideally suited for Members using automated trading systems, the XFT Conditional Order provides a longer firm-up period and is designed for use by manual or human traders. Because of the difference in firm-up times for CXD and XFT Conditional Orders, each type of Conditional Order has different constraints with regard to the contra-side orders it can interact with. Also because of different firm-up times for CXD Conditional Orders and XFT Conditional Orders, when a CXD Conditional Order is available to trade with a XFT Conditional Order, a firm-up request will be sent to the Member that entered the XFT Order first. A firm-up request will be sent to the Member that entered the CXD Conditional Order only after the Member entering the XFT Order has acted on the firm-up request and has firmed up the XFT Order.

CXD Conditional Orders are able to interact with:

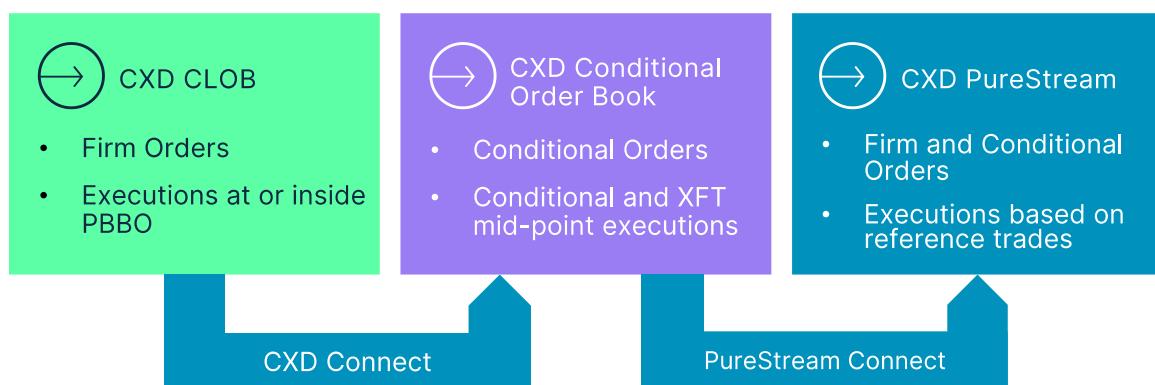
- Other CXD Conditional Orders
- XFT Orders
- CXD Connect Orders, and
- IOC Orders that meet the CXD Conditional Minimum Size

XFT Orders are able to interact with:

- Other XFT Orders; and
- CXD Conditional Orders.

Trades in the CXD Conditional Order Book execute only at the midpoint of the NBBO. CXD and XFT Conditional Orders have a minimum order size that is greater than 50 standard trading units and \$30,000 in notional value or greater than \$100,000 in notional value in accordance with UMIR 6.6. Matching Priority for the CXD Conditional Order Book is determined by Broker/Size/Time.

CXD Trading Book



8.1 Examples

EXAMPLE 1 : XFT Conditional Order Executes Against Another XFT Conditional Order

Order Number	Order Type	Side	Order Qty	Order Price
1	XFT Conditional	B	10,000	\$10.005

Actions:

1. Order #2 XFT Conditional Order entered to sell 10,000 shares @ \$10.005 at time T
2. Order #1 receives firm-up request at time T
3. Order #2 receives firm-up request at time T
4. Order #1 responds with firm-up response at time T+10 s
5. Order #2 responds with firm-up request at time T+15 s
6. Order #2 matches against Order #1 for 10,000 shares at \$10.005 at time T+15 s

EXAMPLE 2: XFT Conditional Order Falls-down Against Another XFT Conditional Order

Order Number	Order Type	Side	Order Qty	Order Price
1	XFT Conditional	B	10,000	\$10.005

Actions:

1. Order #2 XFT Conditional Order entered to sell 10,000 shares @ \$10.005 at time T
2. Order #1 receives firm-up request at time T
3. Order #2 receives firm-up request at time T
4. Order#2 responds with firm-up request at time T+10 s
5. Order #1 timer expires (falls-down) at T+20 s
6. Order #2 receives unsolicited cancel

EXAMPLE 3: XFT Conditional Order Executes Against a CXD Conditional Order

Order Number	Order Type	Side	Order Qty	Order Price
1	XFT Conditional	B	10,000	\$10.005

Actions:

1. Order #2 CXD Conditional Order entered to sell 10,000 shares @ \$10.005 at time T
2. Order #1 receives firm-up request at time T
3. Order #1 responds with firm-up request at time T+10 s
4. Order #2 receives firm-up request at time T+10 s
5. Order #2 responds to firm-up request at time T+10.050 S
6. Order #2 matches against Order #1 for 10,000 shares at \$10.005 at time T+10.050 s

EXAMPLE 4: XFT Conditional Order Falls-down against a CXD Conditional Order

Order Number	Order Type	Side	Order Qty	Order Price
1	XFT Conditional	B	10,000	\$10.005

Actions:

1. Order #2 XFT Conditional Order entered to sell 10,000 shares @ \$10.005 at time T
2. Order #1 receives firm-up request at time T
3. Order #1 timer expires (falls-down) at T+20 s

EXAMPLE 5: CXD Conditional Order Falls-down Against XFT Conditional Order

Order Number	Order Type	Side	Order Qty	Order Price
1	CXD Conditional	B	10,000	\$10.005

Actions:

1. Order #2 XFT Conditional Order entered to sell 10,000 shares @ \$10.005 at time T
2. Order #2 receives firm-up request at time T
3. Order #2 responds with firm-up request at time T+10 s
4. Order #1 receives firm-up request at time T+10 s
5. Order #1 timer expires (falls-down) at T+10.100 s
6. Order #2 receives unsolicited cancel

8.2 PureStream Connect

PureStream Connect is a service providing Members the option to have CXD Conditional Orders seamlessly interact with both Streaming Orders in PureStream and CXD Conditional Orders in the CXD Conditional Order Book. Members must opt-in on an order-by-order basis. If a Member opts-in, a CXD Conditional Order will move from the CXD Conditional Order Book to the PureStream Order Book and then back to the CXD Conditional Order Book if a CXD Conditional Order becomes available to trade against (PureStream Connect Order). If a contra-side order is not immediately available in the CXD Conditional Order Book upon order entry a PureStream Connect Order will move to the PureStream Order Book where it will become eligible to be paired in a Stream. PureStream Connect provides Members the benefits of executing against available volume in a Stream while also still being able to trade against large sized orders at the midpoint on the CXD Conditional Order Book. While all CXD Conditional Orders are eligible for PureStream Connect there is no requirement for Members to use this service.

Any Matches that are generated on PureStream from a PureStream Connect Order are identified with the PureStream liquidity marker. Conversely, any PureStream Connect Order that trades in the CXD Conditional Order Book is identified with the CXD Conditional Order Book liquidity marker. The applicable trading fee schedule applies to trades in the Order Book where a PureStream Connect Order trades.

8.3 Examples

Example 1: PureStream Connect Order is Paired in a Stream and then Remainder is Executed at the Mid-Point in the CXD Conditional Order Book

		BID	ASK		LTR
NBBO		10.00	10.01		
CXD Conditional Order Book	B (20,000)	10.005			
	B (10,000)	10.01			
CXD PureStream			9.99 (limit)	S (20,000)	10%

Action:

1. A PureStream Connect Order is entered to buy 30,000 shares at \$10.02
2. The PureStream Connect Order is paired in a Stream with a CXD PureStream order to sell 20,000 shares at \$9.99 with an LTR of 10%
3. A Reference Trade occurs for 2,000 shares at \$10.00
4. A PureStream match is generated in response for 200 shares at \$10.00 (10% of 2000 shares)
5. A CXD Conditional Order is entered to sell 100,000 shares at \$10.00
6. The PureStream Connect Order executes 29,800 shares at \$10.005 against the CXD Conditional order to sell 100,000 shares

Example 2: PureStream Connect Order Immediately Executes at the Mid-Point in the CXD Conditional Order Book

		BID	ASK		LTR
NBBO		10.00	10.01		
CXD Conditional Order Book	B (20,000)	10.005			
	B (10,000)	10.01			
CXD PureStream	B (20,000)	9.99 (limit)			10%

Action:

1. A PureStream Connect Order is entered to sell 30,000 shares at \$10.00
2. The PureStream Connect Order immediately executes 20,000 shares at \$10.005 against the CXD Conditional Order to buy 20,000 shares and then executes 10,000 shares at \$10.005 against the CXD Conditional Order to buy 10,000 shares

Example 3: PureStream Connect Order is Paired in a Stream when Broker Preferencing is Invoked and the Remainder is Executed at the Mid-Point in the CXD Conditional Order Book

		BID	ASK		LTR
NBBO		10.00	10.01		
CXD Conditional Order Book	B (20,000) (broker 020)	10.005			
	B (10,000) (broker 030)	10.01			
CXD PureStream	B (20,000) (broker 010)	10.02 (limit)			10%

Action:

1. A PureStream Connect Order is entered by broker 010 to sell 15,000 shares at \$9.99
2. The PureStream Connect Order is paired in a Stream with a CXD PureStream order to buy 20,000 shares at \$10.02 with an LTR of 10%
3. A Reference Trade occurs for 2,000 shares at \$10.00
4. A PureStream match is generated for 200 shares at \$10.00 (10% of 2000 shares)
5. The PureStream order to buy 20,000 shares at \$10.02 is cancelled
6. The PureStream Connect Order executes 14,800 shares at \$10.005 against the CXD Conditional order to buy 20,000 shares

9 CXD Connect

CXD Connect is a service providing Members the option to have Eligible Orders (see definition below) entered in the CXD CLOB cross over or “connect” with orders in the CXD Conditional Order Book. Members choosing this option can do so on an order-by-order basis using either a new FIX value or by using a default setting at the port level that will apply to all orders meeting the CXD Conditional Order size entered from that port. There is no requirement for Members to use CXD Connect. CXD Orders are not eligible for CXD Connect by default.

9.1 CXD Connect Eligible Orders

A CXD Order is required to meet the following conditions to qualify for CXD Connect: (**CXD Connect Eligibility Criteria**):

- The Member must opt-in to use CXD Connect;
- The order must be priced at the midpoint of the NBBO or better (higher than the mid-point in the case of a buy order or lower than the midpoint in the case of a sell order);
- The remaining order quantity must meet the **CXD Conditional Order Minimum Size** requirement (which is the greater of 50 standard trading units and \$30,000 in notional value or greater than \$100,000 in notional value in accordance with UMIR 6.6) after all available liquidity is displaced on CXD first.

9.2 When is CXD Connect Available

CXD Connect is available during the CXD Trading Book’s normal trading session hours from 9:30am to 4:00pm EST.

9.3 How does CXD Connect Work

When a Member enters an order on CXD that meets the CXD Connect Eligibility Criteria, the order will first sweep all immediately available liquidity on CXD and match with these orders following the normal CXD matching priority process (Price/Broker/Time priority). If, after all liquidity has been displaced on CXD and the remaining size of the order meets the CXD Conditional Minimum Size, the order will be eligible to cross over or “connect” with the CXD Conditional Order Book. Where a CXD Conditional Order is available (or when a CXD Conditional Order becomes available) the CXD Connect Order will cross over and initiate a firm-up request being sent to the Member that entered the CXD Conditional Order. No information about the CXD Connect Order is communicated to the user of a CXD Conditional Order. When the CXD Connect Order has crossed over from the CXD CLOB to the CXD Conditional Order Book the order will not be available to trade on the CXD CLOB. Order matching between CXD Connect Orders and CXD Conditional Orders will follow the matching priority process of the CXD Conditional Order Book (Broker/Size/Time). CXD Connect Orders will not interact with a PureStream Order or be eligible for PureStream Connect.

9.4 CXD Connect IOC Orders

If a CXD Connect Order is marked IOC any shares remaining after the order executes against orders in the CXD Conditional Order Book will be immediately cancelled back to the Member.

9.5 CXD Connect Non-IOC Orders

If a CXD Connect Order is not marked IOC (i.e. a Day Order), any shares remaining after the order executes against orders in the CXD Conditional Order Book will return to the CXD CLOB where the residual size of the

order will be posted at its limit price and be eligible to interact with other CXD Orders following CXD's normal order handling and matching process.

If the remaining shares of the CXD Connect Order fall below the CXD Conditional Minimum Size, the order will continue to be posted indefinitely on CXD because the order has failed to meet the CXD Connect Eligibility Criteria. However, if the remaining shares of the CXD Connect Order posted in CXD continue to meet or exceed the CXD Conditional Minimum Size, the order will continue to be eligible to cross over and connect with the CXD Conditional Order Book again if a contra-side CXD Conditional Order becomes available. Where two or more CXD Connect Orders with the same trading interest are available in CXD when a contra-side CXD Conditional Order is entered in the CXD Conditional Order Book, orders will cross over based on their time priority – the first CXD Connect Order entered on CXD will cross over first.

9.6 Examples

For the following examples please note that any interaction with a CXD Conditional Order first requires a firm-up request to be sent and accepted by the Member that entered the CXD Conditional Order in order to trade.

Example 1: CXD Connect IOC Order Fully Executes in the CXD Conditional Order Book

		BID	ASK	
NBBO		10.00	10.01	
CXD Book	B (100)	10.005		
	B (10,000)	10.00		
CXD Conditional Order Book	B (20,000)	10.01 (limit)		

Action:

1. A CXD Connect IOC Order is entered to sell 10,000 shares at \$10.005
2. The CXD IOC Connect Order sweeps CXD and executes 100 shares against the available CXD Order at its limit price of \$10.005 leaving 9,900 shares which meets the CXD Conditional Minimum Size
3. The CXD IOC Connect Order crosses over to the CXD Conditional Order Book and executes the remaining 9,900 shares at the midpoint of the NBBO or \$10.005

Example 2: CXD Connect Order Day Order Fully Executes in the CXD Conditional Order Book

		BID	ASK	
NBBO		10.00	10.01	
CXD Book	B (100)	10.005		
	B (10,000)	10.00		

CXD Conditional Order Book	B (20,000)	10.01 (limit)		

Action: 1. A CXD Connect Day Order is entered to sell 10,000 shares at \$10.005

2. The CXD Connect Order sweeps CXD and executes 100 shares at its limit price of \$10.005 leaving 9,900 shares which meets the CXD Conditional Minimum Size

3. The CXD Connect Order crosses over to the CXD Conditional Book and executes the remaining 9,900 shares at the midpoint of the NBBO or \$10.005

Example 3: CXD IOC Connect Order Partially Filled in the CXD Conditional Order Book

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (100)
			10.01	S (10,000)
CXD Conditional Order Book			10.00 (limit)	S (20,000)

Action: 1. A CXD Connect IOC Order is entered to buy 50,000 shares at \$10.005

2. The CXD IOC Connect Order sweeps CXD and executes 100 shares at its limit price of \$10.005 leaving 49,900 shares which meets the CXD Conditional Minimum Size

3. The CXD IOC Connect Order crosses over to the CXD Conditional Order Book and executes 20,000 shares against the CXD Conditional Sell Order at the midpoint of the NBBO or \$10.005 leaving 29,900 shares

4. The remaining 29,900 shares are cancelled back to the Member

Example 4: CXD Connect Day Order Partially Executes in the CXD Conditional Order Book

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (100)
			10.01	S (10,000)
CXD Conditional Order Book			10.00 (limit)	S (20,000)

Action: 1. A CXD Connect Day Order is entered to buy 50,000 shares at \$10.005

2. The CXD Connect Order sweeps CXD and executes 100 shares at its limit price of \$10.005 leaving 49,900 shares which meets the CXD Conditional Minimum Size

3. The CXD Connect Order crosses over to the CXD Conditional Book and executes 20,000 shares against the CXD Conditional Sell Order at the midpoint of the NBBO or \$10.005 leaving 29,900 shares

4. The remaining 29,900 shares cross back over to CXD where they are posted in the CXD Order book

		BID	ASK	
NBBO		10.00	10.01	
CXD Book	B (29,000)	10.005	10.01	S (10,000)
CXD Conditional Order Book				

Example 5: Resting CXD Connect Day Order Crosses over to the CXD Conditional Order Book

		BID	ASK	
NBBO		10.00	10.01	
CXD Book		10.005	S (50,000) Connect	
		10.005	S (1,000)	
CXD Conditional Order Book				

Action: 1. A CXD Conditional Order is entered to buy 10,000 shares with a limit price of \$10.01 which is immediately available to trade with the 50,000 share CXD Connect Order

		BID	ASK	
NBBO		10.00	10.01	
CXD Book		10.005	S (50,000) Connect	
		10.005	S (1,000)	
CXD Conditional Order Book	B (10,000)	10.01 (limit)		

Action: 2. The CXD Connect Order crosses over to the CXD Conditional Book and executes 10,000 shares at the midpoint of the NBBO or \$10.005 leaving 40,000 shares

3. The remaining 40,000 shares cross back to CXD where they are posted at the order's limit price of \$10.005

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (40,000) Connect
			10.005	S (1,000)
CXD Conditional Order Book				

Action: 4. A CXD Conditional Order is entered to buy 36,000 shares with a limit price of \$10.01 which is immediately available to trade with the 40,000 share CXD Connect Order

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (40,000) Connect
			10.005	S (1,000)
CXD Conditional Order Book	B (36,000)	10.01 (limit)		

Action: 5. The CXD Connect Order crosses over again to the CXD Conditional Book and executes 36,000 shares at the midpoint of the NBBO or \$10.005 leaving 4,000 shares

6. The remaining 4,000 shares cross back over to CXD where they are posted at the order's limit price of \$10.005

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (4,000) Connect
			10.005	S (1,000)
CXD Conditional Order Book				

Action: 7. A CXD Conditional Order is entered to buy 6,000 shares with a limit price of \$10.01.

8. The 4,000 share sell order is below the CXD Conditional Minimum Size and therefore is not eligible to cross over to the CXD Conditional Order Book again.

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (4,000) Connect
			10.005	S (1,000)

Example 6: CXD Execution occurs at the same time when a CXD Connect Order Crosses over

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (50,000) Connect
			10.005	S (1,000)

Action: 1. A CXD Conditional Order is entered to buy 10,000 shares with a limit price of \$10.01 which is immediately available to trade with the 50,000 share CXD Connect Order

		BID	ASK	
NBBO		10.00	10.01	
CXD Book			10.005	S (50,000) Connect
			10.005	S (1,000)

Action: 2. The CXD Connect Order crosses over to the CXD Conditional Book and executes 10,000 shares at the midpoint of the NBBO or \$10.005 leaving 40,000 shares

3. At the same time a buy order for 100 shares is entered on CXD with a 10.005 limit price.
4. The 100 share CXD Order executes against the 1,000 share sell order at 10.005 on CXD
5. The remaining 40,000 shares of the CXD Connect Order cross back over to CXD where they are posted at the order's limit price of \$10.005

		BID	ASK	
NBBO		10.00	10.01	

CXD Book			10.005	S (40,000) Connect
			10.005	S (900)
CXD Conditional Order Book				

10 Summary of Trading Book Orders

Trading Book Features						
Category	Order Type	CXC	CX2	CXD	CXD PureStream	CXD Conditional Order Book
Traditional	Market	✓	✓	✓	✓	✓
	Limit	✓	✓	✓	✓	✓
	Short Sell	✓	✓	✓	✓	✓
	Short Marking Exempt	✓	✓	✓	✓	✓
Specialized	Bypass	✓	✓	✗	✗	✗
	DAO	✓	✓	✗	✗	✗
	Post Only	✓	✓	✓	✗	✗
	Iceberg/Reserve	✓	✓	✗	✗	✗
	X-Berg	✓	✓	✗	✗	✗
	Conditional	✗	✗	✗	✓	✓
	CXD Conditional	✗	✗	✗	✗	✓
	XFT Conditional	✗	✗	✗	✗	✓
Cross	Intentional	✓	✓	✓	✗	✗
	Internal	✓	✓	✓	✗	✗
	Basis	✓	✓	✓	✗	✗
	VWAP	✓	✓	✓	✗	✗
	Contingent	✓	✓	✓	✗	✗
	Derivative-Related	✓	✓	✓	✗	✗
	Special Settlement	✓	✓	✓	✗	✗
Pegged	Primary	✓	✓	✓	✗	✗
	Mid-Peg	✓	✓	✓	✗	✗
	Market	✓	✓	✓	✗	✗
	Pegged Offset	✓	✓	✓	✗	✗
	MPI	✓	✓	✓	✗	✗
	OLP	✗	✗	✓	✗	✗
Non-Displayed	CXD Connect	✗	✗	✓	✗	✗
	Hidden	✓	✓	✓	✗	✗
	Mid-Peg	✓	✓	✓	✗	✗
	MQ	✓	✓	✓	✗	✗
	MQ ATT	✗	✗	✓	✗	✗
	MAQ	✓	✓	✓	✗	✗
	MAQ ATT	✗	✗	✓	✗	✗
	SPI	✓	✓	✓	✗	✓

	M-ELO	✓	✗	✗	✗	✗
	LTR	✗	✗	✗	✓	✗
	PureStream Connect	✗	✗	✗	✗	✓
Time-in-Force	IOC	✓	✓	✓	✓	✗
	SOK	✗	✗	✗	✓	✗
	FOK	✓	✓	✓	✗	✗
	DAY	✓	✓	✓	✓	✓
	GTD	✓	✓	✓	✓	✓
	GTC	✓	✓	✓	✓	✓

11 Odd Lot Auto-Execution

11.1 Overview

Each Nasdaq Canada Trading Book enables Nasdaq Canada Members to trade Odd Lot orders with guaranteed fills for orders that are marked IOC and are immediately marketable against the NBBO. Odd Lot Members meet their responsibility for guaranteeing executions against incoming IOC marketable Odd Lot orders on the passive side of the NBBO through orders generated automatically by the Nasdaq Canada System (auto-execution). For the purpose of receiving a guaranteed auto execution Odd Lot orders that are not immediately marketable (market orders or limit orders with a limit price that is marketable) and not marked IOC are rejected. When a match occurs, Nasdaq Canada will send an unsolicited trade report to the Odd Lot Member and an execution message to the incoming participant. Odd Lot execution messages are included in the CX2 market data feed and provided to the TMX Information Processor in accordance with NI 21-101. Odd Lot auto-execution is not allowed when the NBBO for a security is in a locked or crossed condition.

11.2 How it Works

Example 1 Auto-Execution of a Marketable Buy Order

	BID	ASK
NBBO	10.10	10.13
Odd Lot Order	Volume	Price
BUY	9	10.13

Action: An Odd Lot IOC buy order is entered at the NBO (10.13)

Result: Auto-Execution of the Odd Lot Order

Example 2 Auto-Execution of a Marketable Sell Order

	BID	ASK
NBBO	10.10	10.13
Odd Lot Order	Volume	Price
SELL	21	10.10

Action: An Odd Lot IOC sell order is entered at the NBB (10.10)

Result: Auto-Execution of the Odd Lot Order

Example 3 Non-Marketable Buy Order

	BID	ASK
NBBO	10.10	10.13
Odd Lot Order	Volume	Price
BUY	9	10.13

Action: An Odd Lot IOC buy order is entered with a limit price of 10.12

Result: Cancelled back

Example 4 Marketable Mixed Lot Sell Order

	BID	ASK
NBBO	10.10	10.13
Odd Lot Order	Volume	Price
Buy	121	10.13

Action: A Mixed Lot IOC buy order is entered with a limit price of 10.10

Result: Auto-Execution of the Odd Lot portion and execution against available liquidity at 10.10 with any remaining unexecuted portion cancelled.

Example 5 Marketable Odd Lot Buy Order during a Locked Market

	BID	ASK
NBBO	10.11	10.11
Odd Lot Order	Volume	Price
BUY	9	10.11

Action: An Odd Lot IOC buy order is entered with a limit price of 10.11 when the market is locked.

Result: Cancelled back

Example 6 Marketable Odd Lot Buy Order during a Crossed Market

	BID	ASK
NBBO	10.12	10.11
Odd Lot Order	Volume	Price
BUY	21	10.11

Action: An Odd Lot IOC buy order is entered with a limit price of 10.11 when the market is crossed.

Result: Cancelled back

12 CXD Odd Lot Trading Book

12.1 Overview

The CXD Odd Lot Trading Book operates in tandem with Nasdaq Canada's Odd Lot trading Auto-Execution functionality. The CXD Odd Lot Book supports two order types that interact with one another; Odd Lot Liquidity Providing orders "(OLP") and active Odd Lot Orders.

12.2 Odd Lot Liquidity Providing Orders

OLP orders provide liquidity to Odd Lot orders at the passive side of the NBBO. Like Primary Peg orders, the price of OLP orders is pegged to the passive side of the NBBO and adjusted accordingly when the price of the NBBO changes. Members have the option of specifying a limit price when entering an OLP order at which price the order will stay if the NBBO moves above/below the limit price. Each OLP order must meet a minimum size of one Board Lot less one share. If the size of an OLP order falls below the minimum size it will be cancelled back to the member.

OLP orders can be entered on an unlimited number of securities. However, members are limited to booking only one OLP order, per Trader ID, per side, per security, at any one time during the trading day. If a second order is entered with the same Trader ID on the same side for the same security, the order will be rejected.

12.3 Matching Priority

Matching priority for OLP orders follows broker/time priority and uses a nested round robin methodology. Priority is given to orders entered by the same Member first followed by orders entered in the time sequence they were received. However, due to the round robin methodology, when an OLP order receives an execution, it is moved to the end of the order queue. Multiple orders from the same Member (with different Trader IDs) are grouped together for the purpose of the round robin (a "Member Group"). All orders in a Member Group are moved to the end of the order queue when the first order in a Member Group receives an execution. The order within a Member Group that receives an execution is also moved to the end of the order queue of orders in that Member Group. This nested round robin methodology ensures that there is an even distribution of executions between members regardless of the number of Trader IDs that are used to enter OLP orders.

OLP orders are assigned time priority based on the time an order is received during regular trading hours between 9:30 a.m. and 4:00 p.m. OLP orders received before 9:30 a.m. are prioritized based on the time they are received; however, they are not eligible to trade until 9:30 a.m. An OLP order with a limit price above/below the NBBO that is unmarketable is placed at the end of the order queue when it becomes eligible to trade again when the NBBO moves back within its limit price.

The CXD Odd Lot Book accepts Odd Lot orders entered as either market orders or limit orders. Marketable Odd Lot orders (market orders or limit orders with a limit price that is marketable) will interact with posted OLP orders at the NBBO. Odd Lot orders with limit prices that are not marketable are booked in the CXD Odd Lot Book at their limit price. Booked orders interact with OLP orders when they become marketable – they do not interact with one another.

In the event that a marketable active Odd Lot order is entered when there are no OLP orders resting in the Odd Lot book providing liquidity, the Odd Lot order will receive a guaranteed auto-execution from the designated Odd Lot Member for that security.

12.4 How it Works

Example 1 Odd Lot Market Order – Time Priority

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	50,000 OLP (009) (P1)			25,000 OLP (079) (P1)
	30,000 OLP (005) (P2)			35,000 OLP (065) (P2)
	25,000 OLP (007) (P3)			50,000 OLP (100) (P3)
Odd Lot Order		Volume	Price	
Sell (Market) (065)		72	10.10	

Action: An Odd Lot market order is entered to sell 72 shares at 10.10 by Member 065.

Result: The Odd Lot order executes against the 50,000 share OLP buy order entered by Member 009 because it was entered first and has time priority. Following the execution this order will move to the end of the order queue.

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	30,000 OLP (005) (P1)			25,000 OLP (079) (P1)
	25,000 OLP (007) (P2)			35,000 OLP (065) (P2)
	49,928 OLP (009) (P3)			50,000 OLP (100) (P3)

Example 2 Odd Lot Market Order – Broker Priority

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	50,000 OLP (009) (P1)			25,000 OLP (079) (P1)
	30,000 OLP (005) (P2)			35,000 OLP (065) (P2)
	25,000 OLP (007) (P3)			50,000 OLP (100) (P3)
Odd Lot Order		Volume	Price	
Buy (Market) (065)		58	10.13	

Action: An Odd Lot market order is entered to buy 58 shares at 10.13 by Member 065.

Result: The Odd Lot order executes against the 35,000 share OLP sell order entered by Member 065. Although this order does not have time priority (it was entered after the first OLP order) it receives execution priority because the order was entered by the same Member (065). Following the execution this order will move to the end of the order queue.

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	50,000 OLP (009) (P1)			25,000 OLP (079) (P1)
	30,000 OLP (005) (P2)			50,000 OLP (100) (P2)
	25,000 OLP (007) (P3)			34,942 OLP (065) (P3)

Example 3 Odd Lot Limit Order – Single Order Booked in Odd Lot Book

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	50,000 OLP (009) (P1)			25,000 OLP (079) (P1)
	30,000 OLP (005) (P2)			35,000 OLP (065) (P2)
	25,000 OLP (007) (P3)			50,000 OLP (100) (P3)
Odd Lot Order		Volume	Price	
Sell (Limit) (065)		65	10.11	

Action: An Odd Lot limit order is entered to sell 65 shares at 10.11 by Member 065.

Result: The Odd Lot limit order is not marketable and therefore is posted in the Odd Lot Book at its limit price (10.11).

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.11	
	50,000 OLP (009) (P1)			65 (065) Limit Order
	30,000 OLP (005) (P2)			
	25,000 OLP (007) (P3)			

Action: The NBB moves higher from 10.10 to 10.11.

Result: Each of the three OLP buy orders are repriced to 10.11 when the NBB changes resulting in the Odd Lot sell limit order at 10.11 becoming marketable. The Odd Lot limit sell executes against the 50,000 share OLP buy order entered by 009 because it has time priority. Following the execution this order will move to the end of the order queue.

		BID	ASK	
NBBO		10.11	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.11	10.13	
	30,000 OLP (005) (P1)			25,000 OLP (079) (P1)
	25,000 OLP (007) (P2)			35,000 OLP (065) (P2)
	49,935 OLP (009) (P3)			50,000 OLP (100) (P3)

Example 4 Odd Lot Limit Order – Multiple Orders Booked in Odd Lot Book

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	50,000 OLP (009) (P1)			25,000 OLP (079) (P1)
	30,000 OLP (005) (P2)			35,000 OLP (065) (P2)
	25,000 OLP (007) (P3)			50,000 OLP (100) (P3)
Odd Lot Order		Volume	Price	
Buy (Limit) (009)		75	10.12	

Action: An Odd Lot limit order is entered to buy 75 shares at 10.12 by Member 009.

Result: The Odd Lot limit order is not marketable and therefore is posted in the Odd Lot Book at its limit price (10.12)

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.12	10.13	
	75 (009) Limit Order			25,000 OLP (079) (P1)
				35,000 OLP (065) (P2)
				50,000 OLP (100) (P3)
Odd Lot Order		Volume	Price	
Sell (Limit) (007)		65	10.12	

Action: An Odd Lot limit order is entered to sell 65 shares at 10.12 by Member 007.

Result: The Odd Lot limit order is not marketable and therefore is posted in the Odd Lot Book at its limit price (10.12) resulting in a locked book.

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.12	10.12	
	75 (009) Limit Order			65 (007) Limit Order

Action: The NBO moves lower from 10.13 to 10.12.

Result: All three OLP sell orders are repriced to 10.12 when the NBO changes resulting in the Odd Lot buy limit order at 10.12 becoming marketable. The Odd Lot limit buy order executes against the 25,000 share OLP sell order entered by 079 because it has time priority. Following the execution this order will move to the end of the order queue.

		BID	ASK	
NBBO		10.10	10.12	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.12	
	50,000 OLP (009) (P1)			65 (007) Limit Order
	30,000 OLP (005) (P2)			35,000 OLP (065) (P1)
	25,000 OLP (007) (P3)			50,000 OLP (100) (P2)
				24,925 OLP (079) (P3)

Action: The NBBO moves higher from 10.10 - 10.12 to 10.12 – 10.14.

Result: All three OLP buy orders are repriced to 10.12 when the NBBO changes from 10.10 – 10.12 to 10.12 – 10.14 resulting in the Odd Lot limit sell order at 10.12 becoming marketable. The Odd Lot limit sell order executes against the 50,000 share OLP buy order entered by 007 because the order was entered by the same Member. Following the execution this order will move to the end of the order queue.

		BID	ASK	
NBBO		10.12	10.14	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.12	10.14	
	50,000 OLP (009) (P1)			24,925 OLP (079) (P1)
	30,000 OLP (005) (P2)			35,000 OLP (065) (P2)
	24,935 OLP (007) (P3)			50,000 OLP (100) (P3)

Example 5 Nested Round Robin Methodology

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	50,000 OLP (009) (P1)			25,000 OLP (079) (P1)
	30,000 OLP (005) (P2,B1)			35,000 OLP (065) (P2)
	25,000 OLP (005) (P2,B2)			50,000 OLP (100) (P3)
	10,000 OLP (005) (P2,B3)			
	25,000 OLP (007) (P3)			
Odd Lot Order		Volume	Price	
Sell (Market) (005)		72	10.10	

Action: An Odd Lot market order is entered to sell 72 shares at 10.10 by Member 005.

Result: The Odd Lot order executes against the 30,000 share OLP buy order entered by Member 005 because it was entered by the same Member (005) and was the first order entered in the Member Group. Following the execution, all orders in the Member Group will move to the end of the order queue. The 30,000 share OLP buy order that received the execution will also move to the end of the order queue in this Member Group.

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	50,000 OLP (009) (P1)			25,000 OLP (079) (P1)
	25,000 OLP (007) (P2)			35,000 OLP (100) (P2)
	25,000 OLP (005) (P3,B1)			50,000 OLP (065) (P3)
	10,000 OLP (005) (P3,B2)			
	29,928 OLP (005) (P3,B3)			

Example 6 Odd Lot Market Order – No OLPs in the Odd Lot Book

		BID	ASK	
NBBO		10.10	10.13	
	BID Size	BID	ASK	ASK Size
Odd Lot Book		10.10	10.13	
	49,935 OLP (009) (P1)			

	30,000 OLP (005) (P2)			
Odd Lot Order		Volume	Price	
Buy (Market)		85	10.13	

Action: An Odd Lot order is entered to buy 85 shares at 10.13 by Member 009.

Result: There are no OLP sell orders in the Odd Lot Book. The order therefore receives an auto-execution from the Odd Lot Member assigned responsibility for the security.

13 Nasdaq CX2 Guaranteed Execution Facility

13.1 Overview

The Nasdaq Canada CX2 Guaranteed Execution Facility (GEF, or GEF Facility) enables Nasdaq Canada Members to receive guaranteed auto-executions of at least the size of the GMV for the residual portion of GEF Eligible Orders. GEF Members provide auto-executions against residual portions of GEF Orders at the NBB or NBO after all visible quotes, visible portions of iceberg orders and non-displayed orders have been displaced on CX2 for a Designated Security. The order matching priority for GEF Orders is the same as other orders in the CX2 Trading Book. GEF auto-executions are only available when there is a visible quote on CX2 at the NBB or NBO. GEF Facility Eligible Orders that are not immediately marketable, or not marked IOC, are canceled back. GEF auto-executions are not available when there is a locked or crossed market on a Designated Security. The maximum size of a GEF auto-execution is 50 standard trading units.

When a match occurs, Nasdaq Canada sends an unsolicited trade report to the GEF Member(s) responsible for meeting GEF obligations for that Designated Security and an execution message to the Member who entered the GEF Order. GEF Order execution messages are included in the CX2 market data feed and provided to the TMX Information Processor in accordance with National Instrument 21-101 Marketplace Operation. The GEF is available for Designated Securities during regular trading hours between 9:30 a.m. and 4:00 p.m.

13.2 How it Works

Example 1 GEF Order is entered at the NBO

		BID	ASK	
GMV = 200				
NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.13	200
GEF Market Maker CV	200			200

Action: GEF Order to buy 400 shares is entered at the NBO (10.13)

Result: 200 shares is executed against the CX2 consolidated displayed offer at 10.13

The residual 200 shares is auto-executed at 10.13 in the GEF Facility

Example 2 GEF Order is entered at NBO when there is not a quote on CX2

		BID	ASK	
GMV = 200				

NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.14	200
GEF Market Maker CV	200			200

Action: GEF Order to buy 400 shares is entered at the NBO (10.13)

Result: Auto-execution does not take place because CX2 does not have a visible quote at the NBO.

Example 3 GEF Order is entered with a limit price of 10.11 (inside the NBB)

		BID	ASK	
GMV = 200				
NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.13	200
GEF Market Maker CV	200			200

Action: GEF Order to sell 400 shares is entered at 10.11

Result: Auto-execution does not take place as the GEF Order was entered at a price inside the NBB (10.10) and is not marketable

13.3 GEF Members Committed Volume

Each GEF Member must commit to trade at least the size of the GMV for each Assigned Security against marketable GEF Orders entered at the NBB or NBO when there is a visible quote on CX2. GEF Members have the option to increase or decrease the size of their auto-execution commitments on one side or both sides of the market for each Assigned Security throughout the trading day. GEF Member Committed Volume can be increased by Board Lot increments up to a maximum of 50 standard trading units. GEF Member Committed Volume can be decreased throughout the trading day but can never be set below the GMV. Information about each GEF Member's Committed Volume is not made public and is only known by the Exchange Systems. Although the size of the GEF Member Committed Volume may be changed throughout the trading day, the GEF Market Maker must always maintain a commitment to trade at least the size of the GMV on both sides of the market.

GEF Members are not responsible for trading odd lot orders on their Assigned Securities. The obligation to auto-execute odd lot orders across all securities on each Trading Book is the responsibility of Odd Lot Members.

13.4 Competition between GEF Members

For each Designated Security more than one GEF Market Makers can be assigned responsibility for guaranteeing automatic immediate fills for incoming GEF Orders. Where there are multiple GEF Market Makers for a Designated Security, GEF Market Makers can compete with one another for a larger portion of incoming GEF Orders by increasing their GEF Committed Volume. Order allocation between GEF Members is determined on a pro-rata basis. Pro-rata share allotments are rounded up or down to the nearest Board Lot. This order allocation methodology is used to compensate GEF Members for the additional risk taken by GEF Members for their willingness to trade larger size. The GMV for each Designated Security is publicly available. GEF Member Committed Volume will not be disseminated and will only be known by the Exchange System.

13.5 How Competition between GEF Members Works

Example 1 GEF Order is entered at NBO when each GEF Member Committed Volume is the same

		BID	ASK	
GMV = 100				
NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.13	200
GEF Market Maker 1 CV	100			100
GEF Market Maker 2 CV	100			100

Action: GEF Order to buy 400 shares is entered at the NBO (10.13)

Result: 200 shares is executed against the CX2 consolidated displayed offer at 10.13

GEF Market Maker 1 auto-executes a sale of 100 shares at the NBO (10.13)

GEF Market Maker 2 auto-executes a sale of 100 shares at the NBO (10.13)

Example 2 GEF Order is entered at NBB when each GEF Member Committed Volume is the same

		BID	ASK	
GMV = 100				
NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.13	200
GEF Market Maker 1 CV	100			100

GEF Market Maker 2 CV	100			100
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Action: GEF Order to sell 600 shares is entered at the NBB (10.10)

Result: 200 shares is executed against the CX2 consolidated displayed bid at 10.10

GEF Market Maker 1 Auto-Executes a purchase of 100 shares at the NBB (10.10)

GEF Market Maker 2 Auto-Executes a purchase of 100 shares at the NBB (10.10)

The remaining 200 shares is cancelled back to the Member

Example 3 GEF Order is entered at NBO when GEF Member 2 has a larger GEF Member Committed Volume

		BID	ASK	
GMV = 100				
NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.13	200
GEF Market Maker 1 CV	100			100
GEF Market Maker 2 CV	400			400

Action: GEF Order to buy 300 shares is entered at the NBO (10.13)

Result: 200 shares is executed against the CX2 consolidated displayed offer at 10.13

GEF Market Maker 2 auto-executes a sell of 100 shares at the NBO (10.13). (the GEF Facility provides auto-executions in increments of Board Lots only; GEF Market Maker 2 is awarded the execution of the 100 residual shares because as a higher GMV)

Example 4 GEF Order is entered at NBO when GEF Member 2 has a larger GEF Member Committed Volume

		BID	ASK	
GMV = 100				
NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.13	200
GEF Market Maker 1 CV	100			100
GEF Market Maker 2 CV	200			200

Action: GEF Order to buy 500 shares is entered at the NBO (10.13)

Result: 200 shares is executed against the CX2 consolidated displayed offer at 10.13

GEF Market Maker 1 auto-executes a sale of 100 shares at the NBO (10.13) (the pro-rata distribution for GEF Market Maker 1 is $100/300 * 300$ which equals 100 shares)

GEF Market Maker 2 auto-executes a sale of 200 shares at the NBO (10.13) (the pro-rata distribution for GEF Member 1 is $200/300 * 300$ which equals 200 shares)

Example 5 GEF Order is entered at NBB when GEF Member 1 has a larger GEF Member Committed Volume

		BID	ASK	
GMV = 100				
NBBO		10.10	10.13	
CX2 BBO	200	10.10	10.13	200
GEF Market Maker 1 CV	300			300
GEF Market Maker 2 CV	100			100

Action: GEF Order to sell 500 shares is entered at the NBB (10.10)

Result: 200 shares is executed against the CX2 consolidated displayed bid at 10.10

GEF Market Maker 1 auto-executes a purchase of 200 shares at the NBB (10.10) (the pro-rata distribution for GEF Market Maker 1 is $300/400 * 300$ which equals 225 shares rounded down to the nearest Board Lot or 200).

GEF Market Maker 2 auto-executes a purchase of 100 shares at the NBB (10.10) (the pro-rata distribution for GEF Member 2 is $100/400 * 300$ which equals 75 shares rounded up to the nearest Board Lot or 100).

13.6 GEF Member Criteria for Approval

The following criteria must be met by a Member to be eligible to serve as a GEF Member:

1. Execute the GEF Addendum to the Member Agreement;
2. Have policies and procedures in place to ensure compliance with Exchange Requirements;
3. Have policies and procedures in place to monitor its conduct for compliance with its GEF Member obligations;
4. Carry out all obligations of an GEF Member in compliance with Exchange Requirements; and

5. Have necessary resources (both training and technology) to carry out the obligations of a GEF Member.

GEF Members may not assign its obligations as a GEF Member to DEA Eligible Clients (as defined by NI 23-103) or Approved Traders of DMA Eligible Clients.

13.7 GEF Member Obligations

Each GEF Member must meet the following obligations on a monthly basis for each Assigned Security on CX2 in order to ensure they continue to serve as a GEF Member:

1. Guaranteeing fills of at least the size of the GMV against any residual portion of GEF Orders at the NBB or NBO after all visible quotes at the NBB or NBO have been displaced;
2. Providing the required number of Board Lots within the price ranges set out in Table 1 below on each side of the market 95% of the time;

Table 1

Security	Board Lot Requirement	Maximum from Last Sale	Time
ETFs	30 BL two-sided quote	4%	95%
Securities equal to or above one dollar	6 BL two-sided quote	3%	95%
Securities below one dollar	4 BL two-sided quote	\$0.05	95%

Only trading activity (orders and trades) by the Approved Trader for each GEF Member assigned responsibility to meet the obligations of the GEF Member will be credited to the GEF Member when assessing the performance of the GEF Member. GEF Member quoting obligations will be met only with quoting activity on CX2 and not across other Nasdaq Canada Trading Books.

13.8 GEF Facility Eligible Orders

A GEF Facility Eligible Order is a client order entered on a Designated Security where the entire size of the original parent order is less than or equal to a pre-determined multiple of the GMV determined by Nasdaq Canada, provided that the order is not:

- One of multiple orders for the same client on the same day;
- An order entered by a DEA client, unless the DEA client is a broker acting as an agent for retail client order flow;
- An order entered on behalf of a US dealer unless
 - The order is for a client of a US dealer, and;
 - The dealer first confirms the order is for a client of the US dealer or;
- For a client that is generally involved in active and continuous trading on a daily basis.

In order for a GEF Facility Eligible Order to be a GEF Order the order must be marked GEF and IOC.

13.9 GEF Guaranteed Minimum Volume

The GMV for Designated Securities is One Board lot or such other size as may be set out by the Exchange and published by Notice to Members.

14 Non-Display Order Handling in Compliance with CIRO Dark Rule Framework

14.1 Overview

Each Nasdaq Canada Trading Book supports non-displayed orders. In accordance with CIRO's Dark Rule Framework, all visible orders must be executed before a non-displayed order at the same price level irrespective of whether the non-displayed order was entered first. In addition, non-displayed orders that do not meet the minimum size requirements¹⁵ set by CIRO must provide minimum price improvement to the order defined as one trading increment or a half trading increment if the bid-ask spread is at a minimum. Non-displayed orders that meet the minimum size requirements may trade at the NBBO. Compliance with the CIRO Dark Rule Framework is enforced by the Nasdaq Canada System.

14.2 How it Works

Example #1 CIRO Dark Rule Framework

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CXC	100 (HL)	10.12	10.15	100

Action: A market order to sell 100 shares (does not meet CIRO's minimum size requirement) is entered on CXC.

Result: The sell order executes against the buy hidden limit (HL) order posted at 10.12 which is permitted because the 10.12 price is more than one full tick increment better than the NBB.

Example #2 CIRO Dark Rule Framework

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CX2	100	10.10	10.15	100 (HL)

Action: An IOC market order to buy 100 shares (does not meet CIRO's minimum size requirement) is entered on CX2.

Result: The buy order is cancelled back to the Member as the order does not meet CIRO's minimum size requirement and the 10.15 hidden limit offer does not represent a full tick increment better than the NBO.

¹⁵ CIRO's Minimum Size Requirements is defined as an order for more than 50 standard trading units and \$30,000 or has a value of more than \$100,000.

Example #3 CIRO Dark Rule Framework

	BID Size	BID	ASK	Ask Size
NBBO		10.12	10.13	
CXD	100(Mid-Peg)	10.125	10.13	100 HL

Action: A market order to sell 100 shares (does not meet CIRO's minimum size requirement) is entered on CXD.

Result: The sell order executes against the dark midpoint buy order floating at 10.125 which is permitted because the spread is one tick wide and because 10.125 provides price improvement over the NBBO.

Example #4 CIRO Dark Rule Framework

	BID Size	BID	ASK	Ask Size
NBBO		10.10	10.15	
CXD	5100 HL	10.10	10.15	100 HL

Action: A market order to sell 5100 shares (meets CIRO's minimum size requirement) is entered on CXD.

Result: The sell order executes at the NBB or 10.10 because the size of the order meets the minimum size requirement.

15 Order Handling Compliance with the Order Protection Rule

15.1.1 The Order Protection Rule

The Order Protection Rule requires all visible, immediately accessible, better-priced protected limit orders to be filled before other protected limit orders at inferior prices, regardless of the market where the order is entered. The purpose of OPR is to ensure that if a protected order is entered on a marketplace with the best price, it will be executed ahead of inferior priced protected orders irrespective of where the order is posted.

15.1.2 Nasdaq Canada Order Protection rule

Nasdaq Canada consumes external market data from all markets. Order and trade information from protected markets are consolidated with market data from Nasdaq Canada Trading Books to provide the Nasdaq Canada System with real-time market price information.

When an order is received on a Nasdaq Canada Trading Book, the order is compared to the current NBBO. Members may elect from one of the following OPR solutions that will instruct the Nasdaq Canada System how to handle any order that would cross the NBBO and either trade-through or quote-through a better priced protected order:

- **Cancelation:** orders that would otherwise trade-through will be cancelled back;
- **Repricing:** orders that would otherwise trade-through will automatically be re-priced one trading increment more passively to prevent a trade-through or a crossed market from occurring. In addition, orders that are entered at the NBBO on the CXC or CX2 Trading Books that would lock the market will also be re-priced.

Members are provided Nasdaq Canada's order re-pricing OPR solution on all Trading Books by default. When an order is re-priced, its price priority after each re-pricing is determined by the price level to which it has been re-priced, while its time priority is determined by the time each re-pricing occurs. When re-pricing multiple orders to the same price level, the time sequence for the re-pricing will be determined by each order's original timestamp or by the timestamp associated with the last re-pricing, whichever is more recent.

Nasdaq Canada Members are able to opt-out of Nasdaq Canada's OPR solutions by using a DAO Order. The DAO Order marker indicates that the Member entering an order has already checked the quotes of all other markets before routing the order to either CXC or CX2¹⁶. When using the DAO marker, the obligation to not have policies and procedures to prevent a trade through falls on the Member.

¹⁶ CXD does not support DAO Orders.

15.1.3 How it Works

The following Market Conditions should be used for the examples below.

	BID	ASK
NBBO	10.10	10.13
CXC Trading Book	10.09	10.14

Example 1 Trade-Through Prevention Rejection – Market Order

Action: A market order to sell 100 shares is entered on the CXC Trading Book

Result: The order is rejected to prevent a trade below the NBB of 10.10

Example 2 Trade-Through Prevention Repricing – Market Order

Action: A market order to sell 100 shares is entered on the CXC Trading Book

Result: The order is re-priced one trading increment more passively than the NBB or 10.11

	BID	ASK
NBBO	10.10	10.13
CXC Trading Book	10.09	10.11

Example 3 Trade-Through Prevention Rejection – Aggressive Limit Order

Action: A limit order to buy 100 shares is entered on the CXC Trading Book at 10.13

Result: The order is rejected to prevent a locked market occurring on the CXC Trading Book at 10.13

Example 4 Trade-Through Prevention Repricing – Aggressive Limit Order

Action: A limit order to buy 100 shares is entered on the CXC Trading Book at 10.13

Result: The order is re-priced one trading increment more passively than the NBO or 10.12

	BID	ASK
NBBO	10.10	10.13
CXC Trading Book	10.12	

Example 5 Trade-Through Prevention – Market Order on CXD

Action: A market order to sell 100 shares is entered on the CXD Trading Book

Result: The order is re-priced to the NBB locking the market in the dark at 10.10

	BID	ASK
NBBO	10.10	10.13
CXD Trading Book		10.10

16 Nasdaq Canada Risk Management Tools

All of the following risk management tools are supported on each Nasdaq Canada Trading Book.

16.1 Cancel on Disconnect

Members are given the option to have all open orders cancelled if a FIX session between Nasdaq Canada and the member is disconnected.

16.2 No-Self Trade

The Nasdaq Canada No – Self Trade feature is enabled on an order-by-order basis through the use of two FIX tags; the first FIX tag denotes a Member generated key to prevent orders with the same key value from the same Member trading against each other, and the second informs Nasdaq Canada which No – Self Trade option should be applied.

Members can choose from one of the following No – Self Trade options:

- Cancel the Active order (Cancel Active);
- Cancel the Passive order (Cancel Passive);
- If the orders are different in share quantity, reduce the larger order and cancel the other one (Decrement and Cancel);
- Send a fill to both orders that is not included as a trade on the public market data feed (Execute Match).

The unique key provided by a Member using this option is intended for use only on buy and sell orders for accounts that may result in trades where there is no change in beneficial or economic ownership.

16.3 Order Entry Parameters

16.3.1 Price Thresholds

Nasdaq Canada supports Marketplace Thresholds described in the following section.

16.3.2 Share Limit

Members are able to set the maximum number of shares permitted per order per security. If an order is entered which exceeds the share limit, the order will be rejected and sent back to the Member.

16.3.3 Notional Limit

Members are able to set the maximum notional value per order per security. The notional value of a trade is calculated by the number of shares multiplied by the price of the security. If an order is entered which exceeds the notional limit the order will be rejected and sent back to the Member.

16.4 Marketplace Thresholds

16.4.1 Overview

Marketplace Thresholds operate as part of a multi-tiered approach to preventing erroneous orders and controlling short term, unexplained price volatility. In accordance with CIRO Guidance, Nasdaq Canada supports Marketplace Thresholds on all Trading books. Orders are prevented from executing outside of two reference prices; the national last sale price (NLSP) and the national last sale price established at one-minute intervals (OMLSP) (each a Reference Price, taken together Reference Prices). Marketplace Thresholds are applicable during regular trading hours (9:30 a.m. and 4:00 p.m.) on all Trading Books and from 4:00 p.m. to 5:00 p.m. on CXC and CX2 and apply to all orders including DAO with the exception of a Basis Order, a Closing Price Order, a Special Terms Order, a Volume-Weighted Average Price Order, an Opening Order, a Market-on Close Order and an order that participates in an auction following the resumption of trading after a trading halt. Orders entered on CXC and CX2 between 8:00 a.m. and 9:30 a.m. will only be compared to the NLSP Reference Price, or the adjusted previous close as disseminated by the listing exchange prior to the first trade of the day, and prevented from executing outside of it.

16.4.2 Marketplace Threshold Levels

CIRO has prescribed different threshold levels for different classes of securities. Please see CIRO Notice 15-0186 *Guidance Notice on Marketplace Thresholds* (August 25, 2015) and CIRO Notice 16-0138 Additional Guidance Respecting Single-Stock Circuit Breakers and Marketplace Thresholds (June 20, 2016) for a list of prescribed thresholds for each asset class. Members should refer to any new CIRO Guidance as it becomes available and is amended from time to time. The threshold level used for the NLSP Reference Price between 8:00 a.m. and 9:30 a.m. will be determined by the Exchange.

16.4.3 Nasdaq Canada Marketplace Thresholds

An order that is entered on a Nasdaq Canada Trading Book at a price that exceeds either Reference Price will be rejected upon entry. Members also have the option to have an order that exceeds either Reference Price be repriced to within the thresholds and posted in the order book. If a rejection occurs, the order will be returned to the Member with a message describing the reason for the rejection. An order can be rejected as a single order or as part of a series of orders. In addition, in the rare circumstance where an order is resting in the order book at a price that, if executed would exceed a Reference Price, the order will be repriced to within the threshold parameter based on the most recent Reference Price.

16.4.4 How it Works

The following Reference Prices are used for all examples.

NLSP	OMLSP	Marketplace Threshold
\$10.00	\$10.05	10% from each Reference Price

Example 1 Violation of the NLSP

Action: Buy order entered at \$11.02

Outcome: Order is rejected because it exceeds the NLSP by greater than 10%. ($\$11.02 > 110\% \text{ of } \$10.00 \text{ or } \$11.00$)

Example 2 Violation of the OMLSP

Action: Sell order at \$9.02

Outcome: Order is rejected because it exceeds the OMLP by greater than 10%. ($\$9.02 < 90\% \text{ of } \$10.05 \text{ or } \$9.045$)

Example 3 Resting order repriced to prevent a potential trade outside the allowable threshold level

Action: Resting buy order at \$11.00.

NLSP changes to \$9.50

Outcome: Resting order is re-priced to \$10.45. ($\$10.45 = 110\% \text{ of } \$9.50, \text{ or } \$10.45$)