

13.2 Marketplaces

13.2.1 Nasdaq CXC Limited – Notice of Proposed Changes and Request for Comment

NASDAQ CXC LIMITED

NOTICE OF PROPOSED CHANGES AND REQUEST FOR COMMENT

Nasdaq CXC Limited (Nasdaq Canada) has announced plans to implement the changes described below in Q4 2022 subject to regulatory approval. Nasdaq Canada is publishing this Notice of Proposed Changes in accordance with the requirements set out in the Process for the Review and Approval of Rules and the Information Contained in Form 21-101F1 and the Exhibits Thereto (Exchange Protocol). Pursuant to the Exchange Protocol, market participants are invited to provide the Commission with comment on the proposed changes.

Comment on the proposed changes should be in writing and submitted by May 30, 2022 to:

Market Regulation Branch
Ontario Securities Commission
20 Queen Street West, 22nd Floor
Toronto, ON M5H 3S8
Fax 416 595 8940
Email: marketregulation@osc.gov.on.ca

And to

Matt Thompson
Chief Compliance Officer
Nasdaq CXC Limited
25 York St., Suite 900
Toronto, ON M5J 2V5
Email: matthew.thompson@nasdaq.com

Comments received will be made public on the OSC website. Upon completion of the Review by OSC staff, and in the absence of any regulatory concerns, notice will be published to confirm the completion of Commission staff's review and to outline the intended implementation date of the changes.

NASDAQ CXC LIMITED

NOTICE OF PROPOSED CHANGES

Nasdaq Canada has announced plans to introduce the following change in Q4 2022 subject to regulatory approval. Nasdaq Canada is publishing this Notice of Proposed Changes in accordance with the requirements set out in the Exchange Protocol.

Summary of Proposed Changes

PURESTREAM – OVERVIEW

Nasdaq Canada is proposing to introduce PureStream, a new order type where orders are paired with one another based on a specified liquidity transfer rate, instead of a specific price (a liquidity transfer rate, or “LTR” indicates the percentage volume of a Reference Trade a user is willing to trade).

When orders are paired, streams are established which are held by the system until a Reference Trade occurs (see definition of Reference Trade below). When a Reference Trade occurs, a match is generated from orders paired in a stream based on their LTR and printed on the market as bona fide trades. Information about PureStream matches is disseminated in market data feeds.

ORDER TYPE FEATURES

A New Order Type Offered on CXD

PureStream will be made available to Nasdaq Canada Members on the CXD Trading Book (CXD) as a new order type similar to how Nasdaq Canada’s Midpoint-Extended Life Order (or MELO) is supported today on the CXC Trading Book. Matches generated from paired orders in a stream will be identified with a unique liquidity marker that will be disseminated in CXD’s market data feed and provided to the Information Processor in accordance with National Instrument 21-101.

PureStream will be made available during the same operational hours as CXD. Orders will be eligible to match during CXD’s trading session between 9:30 a.m. to 4:00 p.m. (EST). Orders entered before the open of CXD’s trading session will be accepted from 7:00 a.m. to 9:30 a.m. where they will be held by the system until the open, at which time they will be paired into streams based on PureStream’s order Pairing Priority methodology (discussed below). Orders paired in a stream will be matched starting with the first Reference Trade for a security after the security opens for trading on the listing exchange after 9:30 a.m.

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 that stream.

In addition to the predefined LTR parameters made available, Members may also enter orders with a custom LTR or elect to use a Liquidity Seeking Order (LS Order) where an infinite LTR parameter is applied. Because LS Orders are not constrained by a LTR, they are immediately available to match with any contra-side LS Orders at the midpoint of the protected NBBO and do not require a Reference Trade to match. While LS Orders can trade against one another at the midpoint immediately, they can also be paired in a stream and trade in response to a Reference Trade at the paired LTR for that stream.

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%)
- Liquidity Seeking – infinite %
- Custom %

Attribution

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

ORDER MATCHING CHARACTERISTICS

Streams

Eligible contra-side orders are paired with one another based on PureStream's Pairing Priority methodology (see below) which in turn create streams. Multiple streams can be established and held by the system at any one time and an order can be paired with more than one contra-side order in multiple streams. After 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 occurs 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).

Reference Trades

After 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);¹

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*².

When a Reference Trade is reported by a marketplace, orders paired in a stream will be matched based on the LTR of that stream. If there is more than one stream, each stream will generate an individual match and be printed simultaneously. It is therefore possible for an 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.

ORDER CONSTRAINTS

Minimum Order Size

All PureStream orders must be entered in Board Lot multiples and meet a minimum order size as determined by the Exchange. While the size of the minimum order size is customizable and subject to the discretion of the Exchange, a minimum order size of greater than 50 Board Lots and greater than \$30,000 in nominal value or greater than \$100,000 in nominal value) is currently being considered.

Minimum LTR

In certain circumstances Members can specify a minimum LTR parameter that must be met by a contra-side order to be eligible to pair. In the case of LS Orders and Custom LTR orders, a customized Minimum LTR constraint can be added. For all other orders entered with a predetermined LTR parameter, the lower range of the LTR parameter serves as the minimum LTR constraint.

Minimum Quantity

Members can specify a minimum quantity (MQ) for LS orders where the order will only match if there is sufficient demand or supply to satisfy the minimum quantity instruction. If the remaining shares of a partially filled LS Order with a MQ instruction is less than the original MQ instruction, the remaining quantity will become the new MQ instruction. MQ instructions are only permitted for LS Orders and only apply when two or more LS Orders are matched at the midpoint.

¹ 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

² "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."

Limit Price

Members can specify a limit price for a PureStream order will not trade. Limit prices can be entered in full tick increments while LS Orders can also be entered in half tick increments.

Marketability Threshold

There is a marketability threshold for each individual security 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 plus the amount of the marketability threshold. In the case of a sell order the order's limit price must be lower than the NBB minus 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 an 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 in the event that the NBBO changes.

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

Conditional Orders

Members are able to use a conditional parameter that can be added to any PureStream order (Conditional 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 orders, a firm-up request will be sent to the Member and the Member will be 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 are able to 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, Nasdaq Canada will monitor the number and percentage of firm-up requests that do not result in a firm order being entered (fall down).

Monitoring will be 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. Nasdaq Canada is proposing to require a Trader ID to firm-up 70% of firm-up invitations received in a trading day (with a minimum of 20 firm up invitations) for an individual symbol. If a Trader ID fails to meet this 70% threshold level it will be suspended from entering any new Conditional orders for that security for the remainder of the trading day. This compliance mechanism is an important characteristic of PureStream's conditional order offering as it will help mitigate against information leakage and against any potential market abuse.

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.
- **Immediate-or-Cancel:** IOC Order is an order for which any portion of the order that is not filled immediately is cancelled. An IOC condition can only be added to an LS Order. As a result of the potential delay created by a firm-up request being sent in response to a Conditional Order, an IOC 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 IOC order is entered.

- **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.

PURESTREAM ORDER PAIRING PRIORITY

PureStream orders are paired based on the following order characteristics:

- Member ID (an order will be paired with another Member order first);
- Liquidity Transfer Rate (the 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.

How it Works

Examples of Order Paring Priority

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 is entered by the same Member as Order 2 (Member 007) and therefore is given priority.

Examples of Pairing Streams and Matches

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:

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 with 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

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

Reference trade – 8,000 shares of ABC trades at \$10.02

Result:

Order #1 matches 2,400 shares at \$10.02 with Order #2 (30% of 8,000 shares based on LTR)

Stream #1: Order #1 (Buy 7,300) paired with Order #2 (Sell 17,300) with 30% LTR

NBBO Change: \$10.00 – 10.02 to \$10.02 – \$10.04

Reference trade – 4,000 shares of ABC trades at \$10.02

Action:

Order #1 matches 1,200 shares at \$10.02 with Order #2 (30% of 4,000 shares based on LTR)

Stream #1: Order #1 (Buy 6,100) paired with Order #2 (Sell 16,100) with 30% LTR

NBBO Change: \$10.02 – \$10.04 to \$10.01 – \$10.03

Reference trade – 3,000 shares of ABC trades at \$10.02

Result:

Order #1 matches 900 shares at \$10.02 with Order #2 (30% of 3,000 shares based on LTR)

Stream #1: Order #1 (Buy 5,200) paired with Order #2 (Sell 15,200) with 30% LTR

Action:

Order #2 is cancelled

Stream #1 is terminated

Order #1 remains open to pair with another order with a residual quantity of 5,200 shares

Example 2 – Single Stream Interrupted by Broker Preferencing

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

Action:

Order #1 entered by Member 009 to buy 10,000 shares with a 30% LTR

Order #2 entered by Member 007 to sell 20,000 shares with a 30% LTR

Order #1 paired with Order #2 in Stream #1 with 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 with Order #2 (30% of 1,000 shares based on LTR)

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

Action:

Order #3 entered by Member 009 to sell 10,000 shares with a 30% LTR

Result:

Order #1 paired with Order #3 in Stream #2 with 30% LTR because Order #3 was entered by the same Member (broker preferencing)

Stream #1 is terminated because of broker preferencing

Order #2 rests in the order book and remains open to pair with another order

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

Result:

Order #1 matches 300 shares at \$10.01 with Order #3 (30% of 1,000 shares based on LTR)

Stream #1: Order #1 (Buy 9,400) paired with Order #3 (Sell 9,700) with 30% LTR

Example 3 – 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

Order #1 paired with Order #2 in Stream #1 with 15% LTR

Order #3 entered to sell 6,000 shares with 15% LTR

Order #3 paired with Order #1 in Stream #2 with 15% LTR

Stream #1: Order #1 (Buy 20,000) paired with Order #2 (Sell 10,000) with 15% LTR
Stream #2: Order #1 (Buy 20,000) paired with Order #3 (Sell 6,000) with 15% LTR

Reference trade – 2,000 shares of ABC trades at \$10.01

Result:

Order #1 matches 300 shares at \$10.01 with Order #2 (15% of 2,000 shares based on LTR) (Stream #1)
Order #1 matches 300 shares at \$10.01 with Order #3 (15% of 2,000 shares based on LTR) (Stream #2)

Stream #1: Order #1 (Buy 19,400) paired with Order #2 (Sell 9,700) with 15% LTR
Stream #2: Order #1 (Buy 19,400) paired with Order #3 (Sell 5,700) with 15% LTR

NBBO Change: \$10.00 – \$10.02 to \$10.02 – \$10.04

Reference trade – 38,000 shares of ABC trades at \$10.03

Result:

Order #1 matches 5,700 shares at \$10.03 with Order #2 (15% of 38,000 shares based on LTR)
Order #1 matches 5,700 shares at \$10.03 with Order #3 (15% of 38,000 shares based on LTR)

Stream #1: Order #1 (Buy 8,000) paired with Order #2 (Sell 4,000) with 15% LTR
Stream #2 is terminated because Order #3 is filled

Example 4 – Sustainable or Persistent Streams

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

Action:

Order #1 entered to buy 100,000 shares with 30% LTR
Order #2 entered to sell 5,000 shares with 15% LTR
Order #1 paired with Order #2 in Stream #1 with 15% LTR
Order #3 entered to sell 10,000 shares with 15% LTR
Order #1 paired with Order #3 in Stream #2 with 15% LTR

Stream #1: Order #1 (Buy 100,000; 5,000 in Stream) paired with Order #2 (Sell 5,000) with 15% LTR
Stream #2: Order #1 (Buy 100,000; 10,000 in Stream) paired with Order #3 (Sell 10,000) with 15% LTR

Reference trade – 2,000 shares of ABC trades at \$10.01

Result:

Order #1 matches 300 shares at \$10.01 with Order #2 (15% of 2000 shares based on LTR)
Order #1 matches 300 shares at \$10.01 with Order #3 (15% of 2000 shares based on LTR)

Stream #1: Order #1 (Buy 99,400) paired with Order #2 (Sell 4,700) with 15% LTR
Stream #2: Order #1 (Buy 99,400) paired with Order #3 (Sell 9,700) with 15% LTR

NBBO Change: \$10.00 – \$10.02 to \$10.02 – \$10.04

Reference trade – 10,000 shares of ABC trades at \$10.03

Result:

Order #1 matches 1,500 shares at \$10.03 with Order #2 (15% of 10,000 shares based on LTR)
Order #1 matches 1,500 shares at \$10.03 with Order #3 (15% of 10,000 shares based on LTR)

Stream #1: Order #1 (Buy 97,900) paired with Order #2 (Sell 3,200) with 15% LTR
Stream #2: Order #1 (Buy 97,900) paired with Order #3 (Sell 8,200) with 15% LTR

Action:

Order #4 entered to sell 100,000 shares with 200% LTR

NBBO Change: \$10.02 – \$10.04 to \$10.01 – \$10.03

Reference trade – 2,000 shares of ABC trades at \$10.01 (Reference Trade #3)

Result:

Order #1 matches 300 shares at \$10.01 with Order #2 (15% of 2,000 shares based on LTR)
Order #1 matches 300 shares at \$10.01 with Order #3 (15% of 2,000 shares based on LTR)
Order #4 continues to rest in the order book

Stream #1: Order #1 (Buy 97,300) paired with Order #2 (Sell 2,900) with 15% LTR
Stream #2: Order #1 (Buy 97,300) paired with Order #3 (Sell 7,900) with 15% LTR

Action:

Order #2 is cancelled

Result:

Stream #1 is terminated because Order #2 is cancelled

Order #1 is paired with Order #4 in Stream #3 with 15% LTR

Stream #2: Order #1 (Buy 97,300) paired with Order #3 (Sell 7,900) with 15% LTR

Stream #3: Order #1 (Buy 97,300) paired with Order #4 (Sell 100,000) with 15% LTR

Examples of Unique Order Types

Example 1 – Liquidity Seeking Orders

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

Action:

Order #1 entered a LS Order to buy 10,000 shares
Order #2 entered a LS Order to sell 20,000 shares

Result:

Order #1 matches 10,000 shares with Order #2 at the midpoint (\$10.01) immediately without waiting for a Reference Trade
Order #2 continues to rest in the order book with a residual size of 10,000 shares

Action:

Order #3 entered to buy 10,000 shares with 30% LTR
Order #3 pairs with Order #2 in Stream #1

Stream #1: Order #3 (Buy 10,000) paired with Order #2 (Sell 10,000) with 30% LTR

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

Result:

Order #2 matches 300 shares at \$10.01 with Order #3 (30% of 1000 shares based on LTR)

Stream #1: Order #3 (Buy 9,700) paired with Order #2 (Sell 9,700) with 30% LTR

Example 2 – 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

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

Expected Date of Implementation

Subject to regulatory approval, we are expecting to introduce PureStream in Q4 2022.

Rationale and Relevant Supporting Analysis

The growth in electronic trading has increased the amount of natural institutional order flow that is handled by algorithmic trading strategies. As a result, it is more and more difficult for these participants to find meaningful liquidity with which to trade and often they are compelled instead to enter only small size orders in the market over long periods of time in order to mitigate price impact. Because of this trend, at any one time there is only a small size of a total order that is available to trade while the residual size of the order is held back unable to be interacted with or accessed. As a result an order's posted liquidity represents only a fraction of what is available to trade. This not only leads to lost opportunities for natural contra-side orders to find one another but also results in higher execution costs for both participants as each side must often pay the cost of crossing the bid-ask spread.

PureStream's unique market structure has been designed to specifically address these challenges and provide a solution for institutional accounts and the dealers that manage their order flow. By prioritizing order pairing (and in turn matching) based on LTR instead of price, PureStream provides participants with a unique trading option that will ensure they receive a selected rate of participation of consolidated traded volume for a security while at the same time minimizing market impact. By separating the price discovery process from the liquidity discovery process, PureStream enables algorithmic orders to search, find and yield more liquidity faster without price impact. Furthermore, PureStream minimizes the number of counterparties with which a large order trade against. This in turn helps minimize information leakage.

Expected Impact on Market Structure

We expect the introduction of PureStream to bring the benefits of facilitating matching between large size natural orders (particular institutional orders) which in turn will result in lower trading costs and better execution outcomes by minimize market impact and information leakage. Furthermore, the market will benefit from a fair and orderly market being facilitated for securities where sharp unidirectional price movements occur.

While we recognize that PureStream will result in matches (and in turn an increase in trade messages) being generated in response to a Reference Trade we do not anticipate this increase will result in any significant demand on participants' systems. This is because unlike orders executed in the market that result in a high number of order and trade messages, PureStream will only generate trade messages after a stream is established. Furthermore, any increase in trade messages is anticipated to be small and represent a very small percentage of total messages.

Expected Impact on the Exchange's Compliance with Ontario Securities Law

There is no expected impact on Nasdaq Canada's compliance with Ontario Securities Law. Given However, because of PureStream's unique market structure where matches are generated in response to Reference Trades we have provided explanations how PureStream will comply with the Order Protection Rule and facilitate the maintenance of a fair and orderly market.

a) Order Protection Rule

To ensure compliance with the Order Protection Rule, a Reference Trade must occur at a price at or within the protected NBBO. If a Reference Trade takes place outside the protected NBBO, the Trading System will not consider the Reference

Trade for matching purposes and will not generate any matches between paired orders in a stream. A Reference Trade will also be ignored if it occurs when the NBBO is in a crossed condition. Matches will be generated for paired orders in a stream if the market is in a locked condition with the exception of orders intended to trade at the midpoint (an unpaired LS Order trading with another unpaired LS Order).

b) Fair and Orderly Markets

i. Helping Price Stabilization

Because PureStream generates matched in response to Reference Trades it minimizes market impact which in turn helps stabilize prices at times of extreme volatility. Today, many algorithmic strategies require participation in proportion to consolidated traded volume. This in turn results in strategies exacerbating sharp price movements in one direction. Because the strategy requires participation when a security moves in one direction the only way to participate is to cross the spread which in turn adds pricing pressure in the same direction as the move. Purestream, by matching orders in response to Reference Trades facilitates participation without market impact. As a result, it will volatility is dampened from what would otherwise result in a rapidly rising or falling market.

ii. Trading Halts

A security must be in an open state for an PureStream order to be accepted by the Trading System. If an order is entered when a security is halted for trading it will be rejected. At the time a security is halted existing orders in the order book will continue to be held by the system if a symbol is halted. Members are able to cancel orders when a security is halted.

iii. Trade Cancellations

If a Reference Trade is cancelled, matches that were generated in response to this trade will stand. However, matches that have been generated in response to a Reference Trade that is cancelled by direction of IIROC for market integrity concerns (such as a trade that takes place at a price beyond the 5% trigger price of a Single Stock Circuit Breaker) will be cancelled.

Nasdaq Canada will apply for an exemption order in respect of the requirement in subsection 7.1(1) of National Instrument 21-101 – *Marketplace Operation* (“**NI 21-101**”) that requires a marketplace that “displays” orders of exchange-traded securities to provide accurate and timely information regarding orders for the exchange-traded securities displayed by the marketplace to an information processor (the “**Pre-Trade Information Transparency Requirement**”). Where a conditional parameter has been added to a PureStream order, the invitation sent to the Conditional Order could be considered to be a “display” of the PureStream order that generated it, and could be subject to the Pre-Trade Information Transparency Requirement, which is at odds with the anticipated benefits and appeal of using Conditional Orders. Therefore, to the extent that the benefits of an interaction between a Conditional Order and a PureStream order conflict with the Pre-Trade Information Transparency Requirement, Nasdaq Canada will apply to the OSC, in its capacity as principal regulator, for an exemption order pursuant to section 15.1 of NI 21-101 in regards to the Pre-Trade Information Transparency Requirement.

In support of its exemption application, Nasdaq Canada has noted that:

(a) the Conditional Orders will be limited to the Minimum Order Size which is greater than 50 Board Lots and greater than \$30,000 in nominal value or greater than \$100,000 in nominal value);

(b) A conditional order parameter that is added to any PureStream order is eligible to interact with any other PureStream order with the exception of Liquidity Seeking orders marked IOC in which case a participant must communicate their intention to interact with Conditional Orders explicitly. This is because of the potential delay created by a firm-up request being sent in response to a Conditional Order. For all other PureStream orders we consider a participant to have opt-ed into interacting with Conditional Orders by nature of entering a PureStream order in the system. If the participant does not want to interact with a Conditional Order we expect that participant not to use the PureStream order type.

(c) when an invitation is provided to the participant who entered the Conditional Order, such invitation will only provide symbol and side (i.e., buy or sell), of the PureStream order. The size of the PureStream order should not be able to be inferred as the minimum size for a Conditional Order is the same as the minimum size for all other PureStream orders;

(d) when an invitation is provided to the participant who entered the Conditional Order, the participant receiving the invitation will be unable to determine whether the contra size order is another Conditional Order or a PureStream order; and

(e) there can be no guarantee that the participant who entered the Conditional Order will 'firm up' the invitation.

Consultation and Review

Consultations were undertaken with Investment Dealers that support institutional clients.

Estimated Time Required by Subscribers and Vendors (or why a reasonable estimate is not provided)

Some optional development work will be required by Members and vendors that choose to incorporate the proposed order types into their trading systems. Based on the intended implementation date we anticipate there will be at least 90 days between regulatory approval of the proposed changes and implementation, which should be sufficient for those who decide to implement PureStream into their trading systems.

Will Proposed Fee Change or Significant Change introduce a Fee Model or Feature that Currently Exists in other Markets or Jurisdictions

Yes, PureStream currently operates in the United States as an independent ATS.

Any questions regarding these changes should be addressed to Matt Thompson, Nasdaq CXC Limited: matthew.thompson@nasdaq.com, T: 647-243-6242

Appendix A

Text of the Public Interest Rule Change to Nasdaq Canada Trading Rules and Policies

1.1 Definitions and Interpretation

Liquidity Transfer Rate or "LTR"	The percentage of volume specified in a PureStream Order to be matched in response to a Reference Trade.
PureStream Minimum Order Size	The minimum order size required for a PureStream Order to be accepted by the Exchange.
PureStream Limit Price	A limit price for a PureStream Order either above the current price for a security in the case of a buy order or below the current price in the case of a sell order and beyond which the order will not trade.
Reference Price	Any trade of at least one Board Lot of a particular security displayed in a consolidated market display other than a reported trade resulting from a match between two PureStream Orders with the exception of a: <ul style="list-style-type: none"> • Basis order • Call market order • Closing price order • Special Terms Order (as defined by UMIR) unless the Special Terms Order has executed with a n order or orders other than a Special Terms Order or • Volume-Weighted Average Price Order
Stream	Two PureStream Order paired with one another.

5.6.1 Order Types Book

ORDER TYPE	DEFINITION
Limit Order	"Limit order", as defined in UMIR, means an order to: a) buy a security to be executed at a specified (or better) maximum price; or b) sell a security to be executed at a specified (or better) minimum price.
Market Order	"Market order", as defined in UMIR, means an order to: a) buy a security to be executed upon entry to a marketplace at the best ask price; or b) sell a security to be executed upon entry to a marketplace at the best bid price.
PureStream Order	"PureStream Order" means an order meeting the PureStream Minimum Order Size to: a) buy a security to be executed at the price of Reference Trades based on its specified LTR; or b) sell a security to be executed at a price of Reference Trades based on its specified LTR.

5.6.2 Time in Force Attributes

ATTRIBUTE	DEFINITION
Day	A Limit Order that is valid until it is fully filled or cancelled. The order expires at the end of the Trading Session
Immediate or Cancel (IOC)	An order that must be filled immediately in full or in part. Any unfilled part of the order will be cancelled.

Fill or Kill (FOK)	An order that will be fully filled immediately or cancelled.
Stream or Kill (SOK)	A Purestream Order that will be paired immediately in a Stream or be cancelled.

5.6.3 Instructional Attributes

Execution	Self-Trade Prevention	Prevents an order from a Member from executing with a contra-order from the same Member. The Member can select from the following behaviors: <ul style="list-style-type: none"> • Cancel the newest order (the active order is cancelled) • Cancel the oldest order (the resting order is cancelled and the new order is booked) • Decrement and Cancel (the quantity of the larger order will be reduced, and the smaller order is cancelled) • Execute trade (the trade is executed, but not distributed on the public market data feed)
	Post only	An order that will post into the Exchange’s order book. If a displayed post-only order, upon entry, would result in a trade, the order will be re-priced one tick increment inferior to the relevant side of the NBBO and booked.
	Conditional	An order that does not require a firm commitment but instead results in a firm-up request being sent to a Member when the order becomes eligible to match or pair and must be acted upon by the Member.

5.7.3 CXD Book

CXD is a dark book with matching based on price/broker/time priority. Orders entered on CXD that do not meet the minimum size requirements as defined by UMIR must provide incoming orders with minimum price improvement.

CXD Orders are attributed by default and are automatically eligible for broker preferencing. Members may not opt-out of broker preferencing for attributed orders.

Anonymous orders are eligible for broker preferencing. Jitney orders are not eligible for broker preferencing.

CXD supports Board Lot, Mixed Lot and Odd Lot orders.

CXD supports PureStream Orders with pairing based on broker/LTR/Size/PureStream Limit Price/Time. Only Board Lots can be entered as PureStream Orders.