TSX Alpha Exchange Trading Fee Schedule Effective May November 1, 20198

TSX Alpha Exchange

TSX Alpha Exchange Membership Fees¹

Initial Application Fee: \$3,000

Monthly Membership Fee: \$1,250

Trading Fees²

Cross Printing Facility: Free

Unintentional crosses are billed according to fees for Post-Open

Continuous trades, except where otherwise specified

Odd Lot Fill: \$0.00025 per share where trade price is under \$1

\$0.0005 per share where trade price is \$1 or over

Applies to trades auto-executed against the Odd Lot Dealer during

Post-Open Continuous trading

TSX Alpha Exchange Continuous Trades:3

	Where trace	Where trade price per share is:				
	£4.00	≥\$1	≥\$1.00			
	<\$1.00	ETFs	Non-ETFs			
Removing liquidity	(\$0.0010)	(\$0.0010)	(\$0.0010)			
Retail ⁴	(\$0.0003)	Free	(\$0.0022)			
All other	<u>(\$0.0001)</u>	Free	(\$0.0010)			
Providing liquidity						
Post Only	\$0.00 <u>06</u> 16	\$0.00 <u>06</u> 14	\$0.00 <u>25</u> 16			
Non-Post Only	\$0.00 <mark>04</mark> 14	\$0.00 <mark>0413</mark>	\$0.00 <mark>23</mark> 14			

ETF unintentional cross rates – For ETFs only, per share liquidity providing fees for unintentional crosses will be reduced to \$0.0001. Any discounts to liquidity providing fees from the ALP Program for ETFs will not be applied in the case of liquidity providing fees for unintentional crosses on ETFs.

TSX Alpha Exchange Liquidity Provision (ALP) Program

TSX Alpha Exchange offers two separate ALP programs – one applicable to ETFs and the other applicable to non-ETFs. Under either program, Aa TSX Alpha Exchange Member is eligible to receive reductions in trading fees for liquidity provided on non-ETFs under its or its clients' Trader IDs where the combined passive traded volume in non-ETFs on TSX Alpha Exchange for the IDs for the month exceeds the specified % of total Canadian continuous traded volume (TCCV) for the month, according to the following schedule:

	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5	Tier 6	Tier 7	Tier 8
% TCCV Target								
<u>ETFs</u>	<u>0.25%</u>	0.50%	<u>0.75%</u>	<u>1.00%</u>	<u>1.50%</u>	2.25%	3.00%	3.75%
Non-ETFs	0.25%	0.50%	0.75%	1.00%	1.50%	2.25%	3.00%	3.75%
Per share reduction in	\$0.000025	\$0.00005	\$0.000075	\$0.0001	\$0.000125	\$0.00015	\$0.000175	\$0.0002
liquidity providing fees								

¹ Initial application fees for new members and monthly membership fees are subject to GST/HST.

² Other than as otherwise noted, TSX Alpha Exchange Trading Fees are GST/HST exempt.

³ Rates are based on share volume executed, including for executions resulting from matches through Self Trade Management. A firmwide net credit for Post-Open Continuous trades will first be applied to offset the firm's other trading charges. Any remaining net credit will be paid out to the firm.

⁴ Rates applicable to 'Retail' will apply for any Trader ID identified by the Member as an ID through which orders originating from a 'Retail Customer' (as defined by IIROC) are sent, but will not apply for any such ID that is for a 'DEA client' (as defined in National Instrument 23-103) unless the 'DEA client' is a broker / dealer located in a non-Canadian jurisdiction that is acting as an "agent" for retail client order flow

for applicable security				
class Non-ETFs				

Notes:

- Measurement against TCCV targets and the application of rate reductions will be done at the 'ALP ID Group' level.
- Each ALP ID Group must be pre-approved by TSX Alpha Exchange, and may be comprised of one or more Trader IDs. A TSX
 Alpha Exchange Member may request approval for participation by its own or its client Trader IDs by submitting the required
 form. The form is available upon request.
- Approval for an ALP ID Group is subject to conformance of the ALP ID Group with the following general conditions:
 - a) A TSX Alpha Exchange Member may request the grouping of its-Trader IDs, with the exception of Trader IDs associated with a routing arrangement (RA) or a direct electronic access (DEA) arrangement with a non-registrant client.
 - b) Trader IDs associated with RAs or DEA arrangements referred to in (a) may be grouped together to comprise a single ALP ID Group for an RA or DEA client where that RA or DEA client determines the posting destination for nonmarketable orders sent through the respective Trader IDs, or otherwise where the Trader IDs are associated with the same underlying client.
- Approval of an ALP ID Group automatically entitles the ALP ID Group to participate in each of the two ALP programs.
- Applicable reduction rate is applied against all of the passive board lot volume in non-ETFs the applicable security class by the
 ALP ID Group for the month. For example, an ALP ID Group with passive board lot volume in ETFs that exceeds a stated
 TCCV target will receive the applicable reduction rate for all of its passive board lot volume in ETFs for the month (except where
 otherwise noted for unintentional crosses involving ETFs).
- Only the ALP ID Group's passive traded board lot volume in non-ETFs the applicable security class on TSX Alpha Exchange will be used for calculating its % TCCV.
- TCCV is calculated by TSX Alpha Exchange and is determined based on combined Canadian continuous passive board lot trading volume in the applicable security classTSX-listed and TSXV-listed securities (other than ETFs, notes and debentures), excluding intentional crosses and opening and closing auctions, during standard continuous trading hours of 9:30 a.m. 4:00 p.m. The following also applies:
 - a) TCCV for ETFs will be determined based on TSX-listed ETFs.
 - a)b) TCCV for non-ETFs will be determined based on TSX-listed and TSXV-listed securities other than ETFs, notes and debentures.

TSX Alpha Exchange Odd Lot Dealer Trading Fees on Symbols of Responsibility:

(Schedule 1 to the Odd Lot Dealer Agreement)

Odd Lot Fill: (\$0.0000) per share

Rate applies to liquidity provided against auto-execution of odd lots

during Post-Open Continuous Trading.

All other trading by Odd Lot Dealers charged at the regular rates applicable to trading by all TSX Alpha Exchange

Common Technology and Other Fees

(Monthly Charges, except as otherwise stated)^{5,6}

TECHNOLOGY FEES

Product	Applicable to Each of TSX, TSXV, TSX Alpha Exchange
1 Gb Connectivity (Demarcation) ⁷	No Charge
10 Gb Connectivity (Demarcation) ⁷	\$1,500 for first primary connection
	\$1,000 for additional primary connection
	\$1,000 for disaster recovery connection
New FIX certification	\$3,000 (one-time)
Session bundle set-up	\$500 per bundle (one-time)

TESTING FEES

Product	Applicable to Each of TSX, TSXV, TSX Alpha Exchange		
General Test Environment (GTE) only	\$2,000		
Base amount for weekend tests	\$2,500 per test		

BROADCAST FEED FEES

Product	TSX	TSXV	TSX Alpha Exchange
Broadcast Feeds ^{7,8}			Exoriarigo
Participating Organization / Member – Internal Use License Fees ⁹			
Direct – public and own private content	\$3,000	\$2,000	\$2,000
Direct – own private content only	\$600	\$400	\$400
Indirect – own private content only	\$400	\$250	\$250
Vendor – External Use License Fee ¹⁰			
Public and private content	\$5,500	\$4,000	\$4,000
Private content only	\$1,500	\$1,000	\$1,000
Fee per decryption key / decrypted feed received	\$150	\$100	\$100
(by key / for each Participating Organization / Member			
represented in decrypted private content)			

⁵ Technology, testing and broadcast feed fees are subject to GST/HST

⁶ 'Common Technology and Other Fees' apply with respect to access to the common TMX equities marketplace network infrastructure whether accessing one or all of the TMX equities marketplaces. The 'General Test Environment (GTE) only' fees similarly provide for access to the test environment for all TMX equities marketplaces.

7 Vendor and participating organization / member are responsible for carrier communication costs.

⁸ All uses of broadcast feeds must be approved by TSX / TSXV / TSX Alpha Exchange in accordance with the terms of the applicable agreement(s). Additional fees may apply under the TMX Datalinx Market Data Distribution Rates and TSX Alpha Exchange Market Data Fees fee schedules, as applicable.

9 Broadcast feed fees applicable to Participating Organizations / Members generally apply where the Participating Organization / Member is

directly receiving a broadcast feed for internal use or where directly or indirectly receiving feed containing Participating Organization's / Member's own private content for internal use, as applicable. A Participating Organization / Member in receipt of a decryption key / feeds of decrypted private content pertaining to another Participating Organization / Member will be considered a Vendor for the purposes of the

¹⁰ Broadcast feed fees applicable to vendors generally apply where directly receiving a broadcast feed for redistribution and/or where in receipt of a decryption key pertaining to the private content of a third party or in receipt of a feed containing the decrypted private content of a third party.