Dark Liquidity Guide

Toronto Stock Exchange

TSX Venture Exchange

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1.1 Overview

TMX Group is pleased to offer Dark mid-point and Dark limit orders, referred to as "Dark Order types", on the Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSXV). These Dark orders are fully integrated into the existing visible order book on each Exchange, meaning these new Dark orders will interact and trade with displayed as well as other Dark orders.

Integrating Dark liquidity with Canada's most extensive displayed order book in a manner that preserves the fairness and integrity of the market provides tremendous benefits to market participants by providing additional trade execution choices, meaningful price improvement opportunities, and valuable liquidity-seeking opportunities.

1.2 Purpose

The purpose of the product guide is to ensure the reader leaves with a firm understanding of our Dark orders, with respect to:

- Dark order tags and values

- When Dark orders are authorized to be submitted and when they may trade

- How Dark orders are initially priced

- When and how are Dark orders re-priced

- How Dark orders interact with displayed orders

- Order entry and feed variations specific to Dark orders

- When Dark order functionality may be disabled

1.3 Glossary

Term	Definition
ABBO	The best away market quote
ABB	ATS Best Bid
ABO	ATS Best Offer
ATS	Alternative trading system
Continuous Trading	Trading activity that occurs during the Post Open and MOC Imbalance market states. (9:30 – 16:00)
Executable price	The price at which the Dark order is eligible to trade

	respecting the trade through obligations of not trading through away markets
Executable state	The order state in which a Dark order is eligible to trade.
Large order	An order with a volume greater than 50 board lots or greater than $100,000 in value
Limit price	A client or system assigned upper or lower limit which a Dark order may have its executable price assigned to.
LSP	TSX last sale price
Meaningful price improvement	A half-trading increment on a single trading increment NBBO spread, or one trading increment on a greater than one trading increment NBBO spread
NBBO	National Best Bid/Offer
NBB	National Best bid
NBO	National Best Offer
Non-executable state	The order state in which a Dark order is in eligible to trade.
Small order	An order with a volume less than or equal to 50 board lots and less than or equal to $100,000 in value
TBBO	TSX Best Bid/Offer
Trading increment	The price interval at which an order may be submitted and trade

1.4 Dark order types overview

The Toronto Stock Exchange and TSX Venture Exchange's current offering of Dark order types include Dark mid-point orders and Dark limit orders. These orders types are introduced as native order features available in our displayed order book and can be entered using two new tags to the FIX and STAMP order entry protocols.

Dark mid-point orders will always provide meaningful price improvement of at least a full trading increment unless the NBBO spread is one trading increment. In this case the price improvement provided will be half a trading increment. Dark limit orders will provide meaningful price improvement to small orders however large orders will be eligible to trade at the NBBO once all visible volume is exhausted on the marketplace where the dark order is resting.

On October 15, 2012 the UMIR rule amendments respecting Dark liquidity on Canadian marketplaces will require, subject to certain exceptions, an order entered on a marketplace that trades with an order that is not displayed to receive meaningful price improvement on the execution or be a large order. Meaningful price improvement is

defined as a half-trading increment on a single trading increment NBBO spread, or one trading increment on a greater than one trading increment NBBO spread.

Dark orders interact with displayed orders as well as other Dark orders through one allocation sequence according to price-visibility-broker-time priority, ensuring the priority of displayed orders over Dark orders.

There is no pre-trade transparency of Dark orders meaning order responses and changes in order attributes are not disseminated publicly. All order responses are fully encrypted in the Broadcast feed. There is full post-trade transparency of Dark execution prices which will update the last sale price and be provided to the TMX information processor's Consolidated Last Sale (CLS) feed, however all Dark tag details are classified as private content and therefore fully encrypted. As Dark orders are fully hidden they do not contribute to the symbol's quote.

The TSX/TSXV securities that are enabled to accept Dark orders are identified based on information communicated by TSX/TSXV through notices to Participants/Members, as well as designations on a daily basis within the symbol status message distributed on TMX market data feeds.   During the trading day, a symbol may become ineligible to accept and trade Dark orders due to market issues such as price volatility triggering a market quality safeguard or technical issues such as an ATS sending erroneous quote data. Any change to a symbol's eligibility will be communicated to all participants through a stock status message which will have the Accept Undisplayed tag set to "N". Once the issue has been addressed that symbol may have its eligibility reinstated. When this occurs a stock status message will be disseminated with the Accept Undisplayed tag set to "Y". These events will be followed by external notification by TSX/TSXV Trading Support serving as further notification of the event.

2 Dark Order Types – Features and Functionality

2.1 Dark Midpoint Orders

• Dark Midpoint orders are eligible to trade with all contra flow regardless of order size as meaningful price improvement is provided on all executions.

• Dark mid-point orders are pegged to execute at the floating mid-point of the NBBO with an optional client assigned limit price.

• The optional client assigned limit price is permitted to be an invalided trading increment to ensure that an orders limit can be set at the mid-point price in all circumstances.

• Upon entry Dark mid-point orders are eligible to trade against contra Dark mid-point orders and Dark limit orders.

• Resting Dark mid-point orders may trade with active visible, Dark limit and Dark mid-point orders.

• Dark mid-point orders will only execute at the NBBO mid-point.

• Dark mid-point orders are not executable when the NBBO is locked or crossed.

• Dark mid-point executions are protected in the form of existing TSX/TSXV marketplace threshold parameters and bid/ask tick limits.

• Can result in a trade price which is an invalid trading increment, in which case the reported Last Sale Price will also be an invalid trading increment.

• If the NBBO mid-point is beyond the range of the limit price, the mid-point order will not execute but remain queued retaining priority. When the NBBO mid-point floats back within range of the order's limit price, the order will become executable, attempt to trade and if unsuccessful will reenter the book and maintain its time priority.

2.2 Dark Limit Orders

• Dark Limit orders offering meaningful price improvement over the NBBO are eligible to trade with all contra flow regardless of order size.

  • Dark Limit orders resting at the NBBO are eligible to trade with large orders (>50 board lots or > $100,000 value) once all visible volume is exhausted on the marketplace where the dark order is resting.

  • If the TSX or TSX Venture quote is alone at the NBB or NBO a Dark Limit order resting at this price will be eligible to execute with all incoming order flow irrespective of the contra order's volume once all displayed liquidity on the

resting marketplace is exhausted. (Please see Sec 5.5 Small incoming order trading with a dark limit order at the NBBO)

- Dark limit orders are entered with a full tick limit price, or a market price. TSX/TSXV may assign a limit price based on the original limit or the existing bid/ask tick limits.

- Upon entry Dark limit orders are eligible to trade against contra Dark limit orders, Dark mid-point orders and visible orders.

- Resting Dark limit orders may trade with active visible, Dark limit and Dark mid-point orders.

- Dark limit executions are protected in the form of existing freeze parameters and bid/ask tick limits.

- TSX/TSXV automatically protects these orders from unintentional trade-throughs by only executing these orders at prices at or inside the ABBO. When the ABBO changes a resting Dark limit order may be re-priced to ensure it does not trade through the consolidated away market's best contra price. When the Dark limit order is re-priced it may execute against a contra order if it's determined to be tradable. (Please see Sec 5.3)

2.3 Post Only dark orders

The Post Only order feature on a dark limit order type will reject the order immediately on entry if any part of the order is immediately executable with a visible order during continuous trading. If on entry the dark Post Only limit order is immediately executable with a contra-side dark order, the dark Post Only limit order will book at its limit price.

The Post Only order feature on a dark midpoint order type will book the order at the Protected NBBO midpoint subject to its limit price if immediately executable upon entry. Dark orders that are re-priced due to quote changes will never take the active side of a trade if they are tagged as post only.

As indicated by the above, two contra-side Post Only dark orders that are eligible to match based on price will not execute. Instead, both 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 sit in the book at the locked price and will not execute against each other unless the first resting dark limit order is CFO'd by the trader and becomes a new order in accordance with existing TSX CFO handling procedures.

In the scenario where the first dark resting order referred to above is instead a non-Post Only midpoint order, it will only execute actively when a Protected NBBO repricing causes it to become more aggressively priced

2.4 Tag identifiers

The following tags must be present on the order to be recognized as a Dark limit or Dark mid-point order:

Dark order type	TSX-FIX

Dark Limit	TSX Undisplayed (7726) =Y
Dark Mid-point	TSX Undisplayed (7726) =Y
	TSX PegType (7723) = M

2.5 Dark order tag combinations

The following order attribute values are not be permitted on Dark orders:

Order attributes	Unauthorized Value
Price	MBF
Volume	Odd Lot, Mixed Lot
Bypass	Y
Item Number	-
MGF Candidate	Y
MOC	Y
Non Resident	Y
Settlement Terms	"Cash", "CT" "Date", "MS", "MN"

2.6 Dark order messages and Market states

New Dark orders and CFOs may be entered in the Pre-Open market state and during Continuous Trading. Cancels will also be permitted in these states as well as during the Extended hours trading session.

Dark orders will not participate in the Opening or Closing calls and may only trade during Continuous Trading.

2.7 Assigning the Limit Price and Executable Price to Dark orders

2.7.1 Assigning a limit price to a Dark order

Dark orders may be submitted with a limit or market price. The system will retain the limit price of the order and ensure that the order will not execute outside of that limit price. Aggressive limit priced orders and market priced orders will have a limit price assigned by the trading system based on the bid/ask tick limit for that symbol and price level.

The bid/ask tick limit is a TMX Market Quality safeguard that prevents Market or Better

Price limit orders from trading deep into the book, and thus causing large anomalous price swings. The bid/ask tick limit is currently applied to visible orders and will be applied to Dark orders.

The limit price whether assigned by the client or assigned by the trading system will constrain the executable price of the Dark order. The limit price assigned to the Dark order will not change unless CFO'd by the trader.

2.7.2 Executable Price

A system assigned price at which the Dark order is eligible to trade. The executable price may be reassigned by the trading system when either the mid-point of the NBBO changes for a symbol, the ABBO changes for a symbol, or a dark order is bypassed by a small order due to the potential execution not providing meaningful price improvement.

Dark mid-point executable price

When assigning an executable price to Dark mid-point orders, the system will take into consideration the Dark mid-point order's limit price and the mid-point of the symbol's NBBO. If the mid-point of the symbol violates the limit price of the Dark mid-point order, the Dark mid-point order will be placed in a non-executable state. Once in a non-executable state the Dark order will be ineligible to trade. When the NBBO mid-point for the symbol floats back to a price which does not violate the limit price of the Dark mid-point order, the trading system will transition the Dark mid-point order into an executable state retaining the time priority it previously held, assign the new executable price to the order and attempt to trade the order.

Please see Sec 5.2 for an example of reassigning the executable price of a Dark mid-point order.

Other conditions where Dark mid-point orders may be placed in a non-executable state include:

1. National Best Bid =National Best Offer (locked market)
2. National Best Bid > National Best Offer (crossed market).
3. Either the National Bid or the National Offer = 0

Dark limit executable price

When assigning an executable price to Dark limit orders, the system will take into consideration the limit price and the symbol's ABBO.

A buy Dark limit order's executable price will be the lesser of the order's limit price and the ABO. A sell Dark limit order's executable price will be the greater of the order's limit price and the ABB. Please see Sec. 5.3 for an example of a Dark limit order's executable price being assigned.

Executable price reassignment due to small order bypassing a dark limit

When an alternative marketplace contributes to the NBB or NBO a dark limit order resting at this price will only be eligible to trade with large orders once all displayed liquidity on the resting marketplace is exhausted.
If a contra order is determined to be a small order (see 1.2 Glossary) the dark limit order will be ineligible to trade at this price as it is not providing meaningful price

improvement on the execution. If the small order has remaining volume that establishes a new quote and the dark limit order is now locking or crossing the small order, the dark limit order's executable price will be reassigned 1 tick off of the quote established by the small order.

Please see Sec 5.4 for an example of a Dark limit order's executable price being reassigned due to small order bypassing the dark limit order.

2.7.3 Identifying a Delayed Active assignment

When a Dark order is assigned a new executable price it has the potential to trade. If assigned the active leg of the trade, the trade report will be flagged with "A" (Delayed Active) in position seven of the Exchange Admin tag. This identifier will give full transparency to the trader that the order has been assigned as the active side of a trade. Please note that this new identifier will not be exclusive to Dark Orders, and will be available to applicable displayed orders as well (triggered on-stops, price assigned short sell orders). Please see Sec 4.1.4 for the Delayed Active specification details.

2.8 CFOing a Dark order

Traders will be able to CFO all currently permissible tags (ex. Limit price, Volume) on a Dark order with the exception of the Undisplayed tag. Once an order has been entered as Dark it may not be changed to a visible order. The Dark order would first need to be cancelled and a new order submitted.

2.9 Last Sale Price for Dark Mid-point orders

A mid-point execution can result in a trade price at an invalid trading increment. When this occurs the last sale price will be set at the invalid trading increment.

2.10 Identifying an execution against dark liquidity

To aid clients in determining their transaction costs, any order executing with a passive dark order will have this interaction identified privately in position 4 (Pos. 4 = D) of the exchange admin tag which is returned in fill and trade reports. Please see Sec 4.1.4 for the specification details.

2.11 Allocation Priority and Order Matching

Dark orders will be allocated in two distinct phases:

Phase 1: Board lot allocation

Throughout the board lot allocation fully visible orders and both the disclosed and undisclosed volume of iceberg orders will have priority over Dark orders at the same price. At each price level the allocation will adhere to the following sequence:

1. Broker Preference amongst displayed portions of orders (in time priority if multiple matches).

2. Displayed portions of all other orders (in time priority if multiple matches).

3. Undisplayed portions of icebergs (in time priority if multiple matches. There is no broker preferencing amongst undisplayed portions of icebergs).

4. Broker preference amongst Dark volume with a Minimum Quantity in time priority

5. Dark order volume with a Minimum Quantity in time priority

6. Broker preference amongst Dark volume without a Minimum Quantity in time priority

7. Dark order volume without a Minimum Quantity in time priority

Phase 2: Re-pricing of Dark mid-point orders

After the board lot allocation, a new NBBO may be realized which will result in the reassignment of the executable price for all eligible Dark mid-point orders. Eligibility will be determined based on the limit of the Dark mid-point order. When this occurs the system will attempt to allocate the re-priced Dark mid-point orders according to the steps noted in Phase 1: Board lot allocation.

Please note that Dark mid-point orders will always be matched and executed at the mid-point of the NBBO.

2.12 Minimum Quantity Instruction

2.12.1 Minimum Quantity Instruction

Dark Midpoint orders may be submitted with an optional Minimum Quantity instruction that specifies the minimum volume that must be satisfied for the order to trade. The Minimum Quantity instruction will be enforced on active as well as passive fills. If the order's remaining volume falls below the Minimum Quantity volume the order will participate in a trade only if the total volume of the order can be filled.

2.12.2 Allocation Priority for Orders with a Minimum Quantity Instruction

Orders with a Minimum Quantity instruction will receive priority over dark orders without this condition at the same price level. (see: 2.9 Allocation priority and order matching). If the remaining volume of a Dark Midpoint order with a Minimum Quantity instruction falls below the Minimum Quantity volume specified on the order, the order will retain allocation priority over dark orders without a Minimum quantity instruction at that price level.

2.12.3 Volume Requirement for the Minimum Quantity Instruction

The Minimum Quantity instruction will only be accepted if the volume provided in the Minimum Quantity tag meets or exceeds 20 standard board lots. This volume requirement will be enforced on both the Toronto Stock Exchange and TSX Venture Exchange. If the Minimum quantity volume on the order does not meet or exceed the threshold set by the exchange, the Dark mid-point order will be rejected.

2.13 Disabling and Re-enabling Dark orders

Dark orders may be manually disabled (sec 2.11.1) by TSX at the symbol or market level. Disabling may also occur automatically (sec 2.11.2) through system functionality at the symbol level if certain conditions arise. Once Dark orders have been disabled, all Dark orders will be transitioned into a non-executable state maintaining their priority timestamp. New Dark orders and CFO's will be rejected by the system however Dark orders previously accepted by the system may be cancelled.

2.13.1 Manual disabling Dark orders

Market or technical issues may require Dark orders to be disabled by TSX/TSXV Trading Support at the symbol or market level due to market issues such as price volatility triggering a market quality safeguard or technical issues such as an ATS sending erroneous quote data. When Dark orders have been disabled at the symbol level, all Dark orders for that symbol will be transitioned into a non-executable state and a stock status notification will be disseminated with the Accept Undisplayed value set to "N". This will be followed by a General message being disseminated by TSX/TSXV Trading Support as further notification of the action.

When Dark orders are disabled by TSX/TSXV Trading Support at the market level, all Dark orders on the market will be transitioned into a non-executable state. This will be followed by a General message and an email being disseminated by TSX/TSXV Trading Support as notification of the action.

2.13.2 Automatically disabling Dark orders

Dark orders may be disabled automatically by the system if the following conditions occur:

Predefined mid-point and last sale price volatility parameters have been exceeded. When this occurs the symbol's Accept Undisplayed status will be set to "N" and a stock status notification message will be disseminated.

Once the Dark orders have been disabled for a symbol or the market they may only be re-enabled by TSX/TSXV Trading Support. Notification of this action will be disseminated through a General message and once complete a stock status notification message.

2.13.3 Re-enabling Dark orders

Symbol level

Once Dark orders have been disabled at the symbol level they may be re-enabled intra-day by TSX/TSXV Trading Support. Once re-enabled a stock status notification message will be disseminated with the Accept Undisplayed tag set to 'Y". This will be followed by a General message being disseminated by TSX/TSXV Trading Support as further notification of the action.

Market level

When Dark orders have been disabled at the market level they may re-enabled be prior to, or after the continuous trading session by TSX/TSXV Trading Support. This will be followed by a General message being disseminated by TSX/TSXV Trading Support.

3 Visible and Dark Order Interaction

3.1 Interacting with Dark Orders

All participants of the Toronto Stock Exchange and TSX Venture Exchange will be able to submit and interact with Dark orders through their current order entry sessions. There is no need to "Opt in" to receive the benefits of interacting with Dark liquidity.

Visible orders will always seek price improvement opportunities by attempting to trade against a Dark order as per the order allocation sequence described in Section 2.9 - Allocation priority and Order matching. Once all price improvement fills have been exhausted, visible and Dark volume will be allocated up or down to the order's limit.

3.2 Seeking Dark liquidity without interacting with visible volume

Participants executing a trading strategy to seek price improvement fills offered by Dark orders can either:

- Enter their orders with a limit one tick off of the contra TSX/TSXV quote accompanied with order duration of IOC.
- Enter a Dark Mid-point order

3.3 Seeking the best price without trading through an away market

Participants who desire to receive price improvement fills and ensure they do not trade through an away market's better visible price may use the Order protection features on TSX/TSXV, where the order will receive the price improvement fills offered by Dark volume and execute only against TSX/TSXV volume posted at prices up to and including the price of the best away market quote. Depending on the feature selected the remaining volume will either book one tick off of the contra away market best price or be killed. This strategy allows participants to avoid latency and opportunity costs associated through pre-routing an order, and to send orders directly to TSX/TSXV for the opportunity to receive price improvement and reduced transaction costs, while continuing to be exposed to any best prices on TSX/TSXV with trade-through protection.

3.4 Not interacting with Dark volume

Bypass orders

Orders that have an obligation to trade against the displayed best price while trading on multiple venues can mark their orders bypass to avoid the price improvement fills that would normally be provided by Dark orders and bypass the undisclosed volume of iceberg orders.

Post Only orders

Marking orders as Post-only will prevent interactions with Dark orders for fee-sensitive participants that prefer to display their liquidity by improving on displayed prices.

4 Feed messages

The following sections highlight some notable messaging variations specific to Dark orders.

4.1.1 Order Entry

Dark orders may be submitted through either the STAMP or TSX-FIX protocols: Securities Trading and Message Access Protocol (STAMP) Specification, TSX-FIX Specification and Business Design Guide.

- When a Dark order is booked the limit price will be reported in the Price field of the order confirmation.

- When a trader CFOs the price of a Dark order this will result in a new limit price being assigned.

4.1.2 Broadcast Feed

- All pre-trade messages generated as a result of a Dark order will be fully encrypted.

- There will not be a public indicator that a trade involves a Dark order.

- The Price and Public price fields on the Order/Cancel confirmation report will be populated with the limit price not the executable price.

- All trade reports involving a Dark order will have the public display volume tag set to zero for the side of the trade the Dark order participated. To determine the remaining volume of the Dark order the remaining volume tag must be referenced. As a result of this feature more than one trade report may have the same order number with a display volume of zero.

- All trade reports involving a Dark order will have a unique public order number for the side of the trade that was Dark. The first trade will contain the original public order number. Each subsequent trade will have a randomly generated public order number, however the private order number will be maintained. This feature will enhance the anonymity of Dark orders by masking the pattern of fills for any given Dark order.

- Re-priced dark orders that are assigned the active leg of a trade will have position seven of the Exchange Admin tag populated with an "A" in the trade report. Please note that this new identifier will not be exclusive to Dark Orders, and will be available to applicable displayed orders as well (triggered on-stops)

4.1.3 Reconciliation Feed

The reconciliation feed primarily disseminates messages to aid in end of day reconciliation processes and start of day activities. It is important to note that Order Book and Order status messages for Dark orders will be fully encrypted in the feed. The limit price of Dark orders will populate the Public Price and Price fields in these respective messages.

4.1.4 Summary of Order Entry and Market Data Feed Specification Changes

The table below summarizes the order entry and data feed specification changes associated with the introduction of Dark Orders.

Feature	Description	FIX OE	Broadcast Feed	TL1	TL2	TQL1 (Quantum Feeds)	TQL2 (Quantum Feeds)
Dark Mid-Point order	An order with full pre-trade anonymity which will only execute at the mid-point of the NBBO	**TSXUndisplayed (7726)=Y** Indicates the order is completely non-displayed **TSXPegType (7723)=M** Indicates order is priced at the National Best Bid/Offer mid-point	**Order responses:** Fully encrypted **Trade Report:** Undisplayed (604) and PegType (597) Added to private content LastSale (114) The execution price which may occur at an invalid trading increment Price (41) The execution price which may occur at an invalid trading increment Display volume (150) Set to 0 for the side which is dark	**Message type A: Equity Trade:** Trade Price will be the execution price which may occur at an invalid trading increment **Message type H: Equity Trade Cancellation:** Trade Price will be the execution price which may occur at an invalid trading increment	**Trade Report:** Price (41) The execution price which may occur at an invalid trading increment Display volume (150) Set to zero for the side which is dark	**Equity Trade:** LastSale The execution price which may occur at an invalid trading increment Price The execution price which may occur at an invalid trading increment **Equity Trade Cancelled:** LastSale The execution price which may occur at an invalid trading increment Price The execution	**Trade Report:** LastSale The execution price which may occur at an invalid trading increment Price The execution price which may occur at an invalid trading increment Buy Display Volume Set to zero if side is dark Sell Display volume Set to zero if side is dark

					price which may occur at an invalid trading increment		
Dark Limit order	An order with full pre-trade anonymity which will only execute at or inside the NBBO	**TSXUndisplayed (7726)=Y** Indicates the order is completely non-displayed	**Order responses:** Fully encrypted **Trade Report:** Undisplayed (604) and PegType (597) Added to private content LastSale (114) The execution price which may occur at an invalid trading increment Price (41) The execution price which may occur at an invalid trading increment Display volume (150) Set to zero for the side which is dark	**Message type A: Equity Trade:** Trade Price will be the execution price which may occur at an invalid trading increment **Message type H: Equity Trade Cancellation:** Trade Price will be the execution price which may occur at an invalid trading increment	**Trade Report:** LastSale (114) The execution price which may occur at an invalid trading increment Price (41) The execution price which may occur at an invalid trading increment Display volume (150) Set to zero for the side which is dark	**Equity Trade:** LastSale The execution price which may occur at an invalid trading increment Price The execution price which may occur at an invalid trading increment **Equity Trade Cancelled:** LastSale The execution price which may occur at an invalid trading increment Price The execution price which may occur at an invalid trading increment	**Trade Report:** LastSale The execution price which may occur at an invalid trading increment Price The execution price which may occur at an invalid trading increment Buy Display Volume Set to zero if side is dark Sell Display volume Set to zero if side is dark

Dark order eligibility	Notification of dark eligibility for the symbol	No impact	**Symbol status:** AcceptUndisplayed (605)=Y Indicates if the symbol is eligible to trade dark orders **Stock status:** AcceptUndisplayed (605)=Y Intraday notification if the dark eligibility for the symbol has changed	No impact	**Symbol status:** AcceptUndisplayed (605)=Y Indicates if the symbol is eligible to trade dark orders **Stock status:** AcceptUndisplayed (605)=Y Intraday notification if the dark eligibility for the symbol has changed	No impact	No impact
Delayed Active Identifier	An identifier to notify the participant that they were assigned the active side of the trade due to a re-pricing or triggering mechanism	No impact	**Trade Report:** Exchange-Admin (380) Position 7: 'A' Delayed Active	No impact	No impact	No impact	No impact
Enhancing Dark Order Anonymity	An additional feature to minimize disclosure of dark order intentions	No impact	**Trade Report:** Order Number (40) Unique after the first fill Private order number	No impact	**Trade Report:** Order Number (40) Unique after the first fill	No impact	**Trade Report:** Buy Order ID: Unique is side was dark Sell Order ID:

	After the first fill of a dark order a unique public order number will be assigned to any subsequent fills.		(214) Original order number for the dark order				Unique is side was dark
Executing against dark liquidity tag value	A private tag value that will identify if the order executed with a passive dark order	FieldIdentifier = 6780 TSXExchangeAdmin Position 4: "D" Order executed against dark liquidity	FieldIdentifier = 380 Exchange-Admin Position 4: "D" Order executed against dark liquidity	No impact	No impact	No impact	No impact
Min Qty	Optional tag only permitted on dark midpoint orders that will specify the minimum fill volume which must be satisfied for the order to trade. Acceptance of this instruction will depend on the volume requirement being fulfilled.	MinQty (110)	MinQty (598) Added to private content	No impact	No impact	No impact	No impact

5   Examples

5.1   Determining the price for a Dark mid-point trade.

Starting values:

NBBO = (10.00, 10.03)

NBBO mid-point = 10.015

Bid/Ask tick parameter: $0.50

TSX Order book

Vol	Bid		Offer	Vol	
100	10.00		10.01	100	Dark limit
100	9.95		10.03	100	
			10.04	100	

A Dark mid-point order to Buy 100 @ MKT is entered.

The trading system calculates the limit price and executable price to be assigned to the Dark mid-point order

Limit Price   = TSX offer + 0.50

                        =10.53

Executable price = NBBO mid-point if < Limit price, otherwise non-executable

                        = 10.015

The Dark mid-point order will trade with the Dark limit order for 100 shares at the NBBO midpoint. The trade report will contain the un-rounded trade price (Tag 41 = 10.015) and the un-rounded Last sale price (Tag 114 = 10.015).

5.2   Reassigning the executable price of a Dark mid-point order

Starting values:

ABBO= (9.99, 10.03)

TBBO= (10.00, 10.03)

NBBO= (10.00, 10.03)

NBBO Mid-point = 10.015

Bid/Ask tick parameter: $0.50

TSX Order book

Vol	Bid		Offer	Vol
100	10.00		10.03	100
100	9.98		10.04	100
100	9.97			

A Dark mid-point order to Sell 500 @ MKT is entered.

The trading system calculates the limit price and executable price to be assigned to the Dark mid-point order

Limit Price   = TSX bid - 0.50

                  = 9.50

Executable price = NBBO mid-point if > Limit price, otherwise non executable

                  = 10.015

The system books the Dark mid-point order at the executable price (10.015)

Resulting TSX Order book

Vol	Bid		Offer	Vol
100	10.00		10.015	500
100	9.98		10.03	100
100	9.97		10.04	100

Dark mid-point

(The example continues on the next page)

An order to Sell 100 @ 10.00 is entered and trades with the 10.00 bid.

The resulting TSX quote (9.98, 10.03) is compared against the ABBO quote (9.99, 10.03) to determine if the mid-point of the NBBO has changed.

NBBO (9.99, 10.03)

NBBO Mid-point = 10.01

The new NBBO mid-point does not violate the limit assigned to the Dark mid-point Sell order therefore the executable price of the Dark mid-point order is reassigned to 10.01.

Resulting TSX Order book

Vol	Bid		Offer	Vol
100	9.98		10.01	500
100	9.97		10.03	100
			10.04	100

Dark mid-point

(Please note when a Dark mid-point order has its executable price reassigned a price assigned message will not be disseminated.)

5.3 Assigning the executable price of a Dark limit order

Starting values:

ABBO= (9.99, 10.03)

TBBO= (10.00, 10.03)

NBBO= (10.00, 10.03)

Bid/Ask tick parameter: $0.50

TSX Order book

Vol	Bid		Offer	Vol
100	10.00		10.03	100
100	9.98		10.04	100
100	9.97			

Dark limit order to Sell 500 @ MKT is entered

The trading system calculates the limit price and executable price to be assigned to the Dark limit order

Limit Price = TSX bid - 0.50

= 9.50

Executable price = the greater of the Limit price and the ABB

= 9.99

The Dark limit order trades 100 shares at the visible bid (10.00) and books the remaining volume at the executable price.

Resulting TSX Order book

Vol	Bid		Offer	Vol	
100	9.98		9.99	400	Dark limit
100	9.97		10.03	100	
			10.04	100	

5.4 Dark limit order's executable price being reassigned due to small order bypassing the dark limit order

Starting values:

ABBO= (10.00, 10.03)

TBBO= (10.00, 10.03)

NBBO= (10.00, 10.03)

Bid/Ask tick parameter: $0.50

TSX Order book

	Vol	Bid		Offer	Vol
	1000	10.00		10.03	100
DL	1000	10.00		10.04	100
	1000	9.99			
	1000	9.98			

An order to Sell 1500 @ 10.00 and is marked DAO

The system determines that the order is small and must receive meaningful price improvement when executing with a dark order.

The small order trades with 1000 shares with the visible bid @ 10 and books the remaining volume establishing a new visible offer at 10.00. The small order was not able to trade with the resting dark limit at 10.00 because the execution did not provide meaningful price improvement over the NBB.

The Dark limit order is re-priced one tick off of the visible offer.

When a dark order is crossed or locked with a visible order due ineligibility of the execution providing meaningful price improvement the system will re-price the dark limit order as follows:

If both TBBO and ABBO have changed or only TBBO has changed, system shall determine the booked price based on the following rule:

a) Buy Dark Limit order will be re-priced such that the booked price is lesser of **ABO, Cap Price, TBO – 1 tick**
b) Sell Dark Limit order must be re-priced such that the booked price is greater of **ABB, Cap Price or TBB + 1 tick**

(Please note when a Dark limit order has its executable price reassigned a price assigned message will not be disseminated.)

Resulting TSX Order book

	Vol	Bid		Offer	Vol
	1000	9.99		10.00	500
DL	1000	9.99		10.03	100
	1000	9.98		10.04	100

5.5 Small incoming order trading with a dark limit order at the NBBO

Starting values:

ABBO= (9.99, 10.03)

TBBO= (10.00, 10.03)

NBBO= (10.00, 10.03)

Bid/Ask tick parameter: $0.50

TSX Order book

	Vol	Bid		Offer	Vol
	1000	10.00		10.03	100
DL	1000	10.00		10.04	100
	1000	9.99			
	1000	9.98			

The TSX quote is alone at the NBB with a dark limit order resting at this price.

An order to Sell 2000 @ 10.00 is submitted.

The system determined that the order is small requiring meaningful price improvement when interacting with dark liquidity. The order will trade 1000 @ 10 with the visible bid and 1000@ 10.00 with the dark limit order.

Once the visible volume at 10.00 is traded the dark order resting at 10.00 is provided 1 tick price improvement over the ABB, therefore is eligible to trade with the dark order.

TSX Order book

	Vol	Bid		Offer	Vol
	1000	9.99		10.03	100
	1000	9.98		10.04	100