CANADIAN™ SECURITIES EXCHANGE

CSE Market-on-Close Overview

May 2026

Contents

Introduction

CSE Market-on-Close (MOC) is a call market session, available on CSE (not CSE2), that executes at the end of the Continuous Trading session. It matches market and limit "At the close" orders (Market-on-Close [MOC] orders and Limit-on-Close [LOC] orders) that were entered during the trading day and qualifying orders in the Central Limit Order Book (CLOB). The CSE MOC provides the ability to execute trades at a closing price that is calculated to maximize the volume traded across MOC orders, LOC orders, and any qualifying order volume in the CLOB.

Overview

Starting at the beginning of Pre-Open (7:00 a.m.), MOC orders and LOC orders are accepted with no restrictions. MOC orders and LOC orders are undisclosed (i.e., are not reported on the CSE Multicast Market Data Feed) and do not interact with each other or any other orders until after the MOC Closing Price is determined at 4:00 p.m.

At the beginning of the MOC Imbalance period (3:50 p.m.), some restrictions[1] begin to apply to Market-on-Close order entry. During the MOC Imbalance period, MOC Imbalance Notification messages are sent on the CSE Multicast Market Data Feed every 10 seconds up until 3:59:50 p.m. to provide anonymous, aggregated, MOC market data. These messages include several values (see Table 2) to assist in decisions related to Market-on-Close order entry.

The MOC Freeze period begins at a random time between 3:56 p.m. and 3:57 p.m., at which point further restrictions[1] apply to Market-on-Close order entry. During the MOC Freeze period, LOC orders that are more aggressive than the MOC Imbalance Reference Price (MRP)[2] are subject to a form of limit price pegging (see Limit-on-Close Order [LOC]).

Following the MOC Freeze period, the MOC Closing Price determination process begins at 4:00 p.m. During this process, Market-on-Close order entry is not permitted and the process of calculating the MOC Closing Price begins. The MOC calculated closing price is then evaluated against thresholds to ensure the closing price is acceptable (see MOC Calculated Closing Price). If the MOC Closing Price meets the threshold

[1] For details on the restrictions, see the Session-Specific MOC Order Entry and Events section.
[2] During the MOC Freeze period the MRP is the mid-point of the CSE BBO. If there is no CSE BBO or the CSE BBO is one-sided, then the MRP is the CLOB last sale price.

requirements, the MOC match is executed, MOC trades are reported on the CSE Multicast Market Data Feed, and the CSE Closing Price is set to the MOC Closing Price. If the MOC Closing Price does not meet the threshold requirements, then a single *EOP MOC Imbalance* message is sent on the CSE Multicast Market Data Feed and the symbol enters an Extended Offset Period (EOP) in which LOC orders are accepted (with further restriction[1]) until 4:10 p.m.

Following an EOP, the EOP Closing Price determination process begins at 4:10 p.m. During this process, Market-on-Close order entry is not permitted and the MOC Closing Price is recalculated. The calculated closing price is then evaluated against the MOC Closing Price Limit Thresholds (see Table 3), which at this point include an additional EOP threshold. This process is to ensure the EOP closing price is acceptable. If the EOP Closing Price meets the threshold requirements, the MOC match is executed, MOC trades are reported on the CSE Multicast Market Data Feed, and the CSE Closing Price is set to the EOP Closing Price. If the EOP Closing Price does not meet the threshold requirements, the price is recalculated to the best closing price that can be accomplished that meets the threshold requirements. The MOC match is executed at that best price, MOC trades are reported on the CSE Multicast Market Data Feed, and the CSE Closing Price is set to the EOP Closing Price.

Any remaining volume from MOC orders and LOC orders expires at 4:10 p.m.

The following orders are not included in the MOC Closing Match:

- CLOB Dark (i.e., Peg and Non-Display) orders
  Notes:
  - The exclusion of Peg order types does not apply to Pegged LOC orders
  - The undisclosed portions of Iceberg orders are included in the MOC Closing Match
- Special Settlement Terms orders
- CLOB odd lot and odd lot portions of mixed lot orders
- Untriggered On-Stop orders (On-Stops do not trigger due to MOC trades)
- Orders with a TimeInForce (FIX tag 59) value of "R" (Regular Hours Only)

Market-on-Close Order Types

There are two types of Market-on-Close orders: "Market" on Close (MOC orders) and "Limit" on Close (LOC orders).

Attributes of both MOC orders and LOC orders include the following:

- MOC orders and LOC orders can only be entered on CSE-Listed symbols that are MOC-eligible. A list of eligible symbols will be advertised on the CSE Multicast Market Data feed.
- MOC orders and LOC orders have a TimeInForce (FIX tag 59) value of "7" (At the Close; expire at the end of the EOP).
- MOC orders and LOC orders can be board lot, mixed lot, or odd lot volumes.
- MOC orders and LOC orders are not sent on the CSE Multicast Market Data Feed.
- MOC orders and LOC orders can be marked for self-trade prevention using NoTradeFeat (FIX tag 7713) with a value of "EM" (Execute trade but suppress trade from public tape); any other self-trade prevention value is ignored.
- For securities with no set Market Maker as of 3:50 p.m., MOC Imbalance Notification messages are not sent, no MOC match takes place, and any MOC orders and LOC orders are cancelled with the message: "Symbol is not MOC eligible". No new MOC orders or LOC orders are accepted.

Market-on-Close Order (MOC)

Attributes of MOC orders include the following:

- MOC orders have an OrdType (FIX tag 40) value of "1" (Market).
- If the Price field (FIX tag 44) is included in a MOC order, the value is ignored and tag 44 does not appear in the order acknowledgement.
- MOC orders cannot be modified to a LOC or CLOB order type (or vice versa).

For details on MOC order entry restrictions, see the Session-Specific MOC Order Entry and Events section.

Limit-on-Close Order (LOC)

Attributes of LOC orders include the following:

- LOC orders have an OrdType (FIX tag 40) value of "2" (Limit).
- LOC orders have a Price (FIX tag 44) with a value indicating the limit price for the order.
- LOC orders cannot be modified to a MOC or CLOB order type (or vice versa).

- LOC orders received prior to the MOC Freeze period are accepted as LOC limit orders.
- LOC orders received during the MOC Freeze period are automatically marked as pegged LOC orders unless they are marked as not to be pegged; the orders are either pegged to the MRP[3] (if the order limit price is more aggressive than the MRP) or to the order limit price as entered (if the order limit price is less aggressive than the MRP).
    - For LOC orders pegged to the MRP, the order price is rounded up to the nearest valid tick for buys and rounded down to the nearest valid tick for sells.
    - LOC orders received after the MOC Freeze period begins that are marked as not to be pegged are cancelled.
    - LOC orders can be marked as not to be pegged using MarketInst (FIX tag 7739) = "LC".
    - The order acknowledgement message for LOC orders returns the MarketInst (FIX tag 7739) with one of two values, depending on how they are processed, as follows:
        - LOC orders processed as non-pegged return MarketInst (FIX tag 7739) = "LC"
        - LOC orders processed as pegged return MarketInst (FIX tag 7739) = "PL"
    - No update messages are generated on the feed, order entry, or drop copy sessions as the result of the Pegged LOC order repricing.
    - Pegged LOC orders are allocated in firm, price (pegged price), and time priority.
    - If a pegged LOC pegged price is less aggressive than the MOC Closing Price but the pegged LOC order limit price is at or more aggressive than the MOC Closing Price, the order is pegged to the MOC Closing Price (immediately following the MOC Closing Price Determination or EOP Closing Price Determination, as required) to participate in the MOC; these orders are referred to as Passive Pegged LOC orders and are last in the MOC matching priority for board lots.
    - The closing allocation for Passive Pegged LOC orders is based on firm and time priority. Passive Pegged LOC orders can go unfilled or only partially filled, even if the original order limit price was equal to or more aggressive than the MOC Closing Price.

For details on LOC order entry restrictions, see the Session-Specific MOC Order Entry and Events section.

[3] During the MOC Freeze period, the MRP is the mid-point of the CSE BBO. If there is no CSE BBO or the CSE BBO is one-sided, then the MRP is the CLOB last sale price.

Session-Specific MOC Order Entry and Events

Throughout the trading day, the restrictions on MOC order entry and LOC order entry change based on the current session in effect, as listed in Table 1. In addition, the table includes MOC-specific events that occur during the listed sessions.

Table 1: Session Changes and Associated MOC Order Entry and Events

Market Session and Start Time	Session-Specific MOC Order Entry and Events
Pre-Open 7:00 a.m.	MOC and LOC orders can be entered, amended, or cancelled.
Continuous Trading 9:30 a.m.	
MOC Imbalance 3:50 p.m.	• The MOC Imbalance Starts (CSE Multicast Market Data message "I") system event message is sent. • The MRP is the mid-point of the CSE BBO. • MOC Imbalance Notification (CSE Multicast Market Data message "M") dissemination begins and is updated intermittently. • MOC orders can be entered but not amended or cancelled. • LOC orders can be entered without restriction on price, side, or volume but cannot be cancelled. • Amendments to LOC order price are only permitted to a more aggressive price.
MOC Freeze 3:56-3:57 [time randomized]	• The MOC Freeze Starts (CSE Multicast Market Data message "F") system event message is sent. • The MRP is the mid-point of the CSE BBO. • CLOB orders can be entered, amended, or cancelled. • MOC orders cannot be entered, amended, or cancelled. • LOC orders can be entered. LOC orders entered during the MOC Freeze period are either pegged to the MRP (if the order limit price is more aggressive than the MRP) or to the order limit price as entered (if the order limit price is less aggressive than the MRP), unless they are marked as not to be pegged (in which case, they are cancelled). For pegged LOC orders, the order price is rounded up to the nearest valid tick for buys and rounded down to the nearest valid tick for sells.

Market Session and Start Time	Session-Specific MOC Order Entry and Events
MOC Closing Price Determination 4:00 p.m.	• Trade Messages (CSE Multicast Market Data message "P") are sent for MOC trades. • The Closing Delayed (CSE Multicast Market Data message "E") trading action message is sent for symbols entering EOP. • The MOC Closing Price Determination (CSE Multicast Market Data message "A") system event message is sent. • The MRP is the CLOB last sale price. • During the MOC Closing Price Determination, LOC orders and MOC orders cannot be entered, amended, or cancelled. • The MOC Closing Price is determined. • If the MOC Calculated Closing Price meets the requirements, orders are matched. • For each symbol required to enter EOP, an EOP MOC Imbalance Message (CSE Multicast Market Data message "L") is sent immediately after the closing price is determined for that symbol. • All symbols not required to enter EOP are marked as Closed.
EOP 4:00:01 p.m.	• The EOP Starts (CSE Multicast Market Data message "P") system event message is sent. • CLOB orders can be cancelled but cannot be entered or amended. • The MRP is the CLOB last sale price. • This period only affects symbols that are not closed by 4:00 p.m. • MOC and LOC orders that were entered prior to EOP cannot be amended or cancelled. • LOC orders can be entered but cannot be amended or cancelled during an EOP, however they must be on the side to offset the imbalance, cannot exceed the imbalance volume, and the limit price must be between the MRP and the Failed EOP Maximum Deviation from the MRP (see Table 3 for details); LOC orders that do not meet these requirements are automatically cancelled.

Market Session and Start Time	Session-Specific MOC Order Entry and Events
EOP Closing Price Determination 4:10 p.m.	• The MRP is the CLOB last sale price. • LOC orders and MOC orders cannot be entered, amended, or cancelled. • The EOP Closing Price is determined. • Orders that are tradeable at the EOP Closing Price are matched. • Trade Messages (CSE Multicast Market Data message "P") are sent for MOC trades that occurred in EOP. • The Closing Price Message (CSE Multicast Market Data message "F") is sent for each CSE-Listed symbol, i.e., those that did and did not participate in the MOC • Any remaining MOC and LOC orders with unexecuted volumes expire at 4:10 p.m.
CCP 4:15 p.m.	• The CCP OPEN (CSE Multicast Market Data message "X") system event message is sent. • CLOB orders can be entered on CSE-Listed symbols at their closing price until 5:00 p.m.

Multicast Market Data Feed Changes

The following MOC-related market data will be distributed on the CSE Multicast Market Data Feed.

- **MOC Imbalance Notification Message ("M "; MOC Imbalance Market Data)**
  - Sent periodically from the start of the MOC Imbalance period until 10 seconds before the close. For securities with no Market Maker by 3:50 p.m., MOC Imbalance Notification messages are not sent.
  - Includes the following fields: Symbol, MOC and LOC Only Imbalance Side, MOC Imbalance Reference Price, MOC and LOC Only Imbalance Volume, MOC and LOC Only Paired Volume, Market Order Imbalance Side, Market Order Imbalance Volume, MOC Indicative Closing Price, MOC and LOC Only Closing Price, and Price Variation (see definitions in Table 2).
  - The MOC Imbalance Notification message is only sent for a symbol if there is at least one MOC order or tradeable LOC orders. Once any MOC Imbalance Notification message has been sent for a symbol, the messages continue to be sent every 10 seconds up until 10 seconds before the close.
- **EOP MOC Imbalance Message ("L "; EOP MOC Imbalance Market Data)**
  - Sent immediately following the closing price calculation for each symbol required to enter EOP.
  - Includes the following fields: Symbol, MOC Imbalance Reference Price, MOC and LOC Only Imbalance Side, and MOC and LOC Only Imbalance Volume (see definitions in Table 2).

Table 2: New CSE Multicast Market Data Field Definitions

Field Name	Definition
MOC Imbalance Reference Price (MRP)	Until the MOC Closing Price Determination period begins, the MRP is the mid-point of the CSE BBO. Once the MOC Closing Price Determination period begins at 4:00 p.m., the MRP is the CLOB last sale price.
MOC and LOC Only Imbalance Volume	Identifies the volume of shares of the Imbalance side of MOC.
MOC and LOC Only Imbalance Side	Marker to indicate which side has an Imbalance Volume for Market-on-Close.
MOC and LOC Only Paired Volume	The number of MOC and LOC shares that can be matched at the MRP.
Market Order Imbalance Volume	The volume of shares on the Imbalance based on MOC orders only.
Market Order Imbalance Side	The buy or sell side of the Market Order Only Imbalance Volume.
MOC Indicative Closing Price	This price is what the closing price would be if it occurred at that moment in time.
MOC and LOC Only Closing Price	The closing price based on MOC and LOC orders only.
Price Variation	The absolute value of the percent deviation of the MOC Indicative Closing Price to the MRP.

Execution Messages

This section provides tag information specific to FIX Execution Messages that result from Market-on-Close trading. For further details, see the *CSE FIX Order Entry Programmer's Guide*.

ExchageAdmin: FIX Tag 6780

- Execution messages with the ExchageAdmin tag that are the result of MOC trading identify MOC trades as follows:
    - ExchangeAdmin: FIX tag 6780, Position 2 (Trading Session) = "M" (MOC Trade)

RTAutofill: FIX Tag 6784

- Execution messages with the RTAutofill tag that are the result of market maker trading in the MOC session identify MOC trades as follows:
    - RTAutofill: FIX tag 6784 = "M" (MOC Trade)

CSEMarketInst: FIX Tag 7739

- Execution messages with the CSEMarketInst tag that are the result of MOC trading for a LOC order type identify the trade as pegged or non-pegged as follows:
    - CSEMarketInst: FIX tag 7739 = PL (Pegged LOC; appears in 'ExecutionReport' only)
    - CSEMarketInst: FIX tag 7739 = LC (Non-Pegged LOC)

TradeLiquidityIndicator: FIX Tag 9882

- Execution messages with the TradeLiquidityIndicator tag identify the trade as dark or non-dark as follows:
    - TradeLiquidityIndicator: FIX tag 9882, Position 2 (Dark Trading) = "D" Traded as dark (i.e., as or against a dark order)
    - TradeLiquidityIndicator: FIX tag 9882, Position 2 (Dark Trading) = "N" Not traded as dark *MOC orders always have a value of "N" in Position 2.*
- Execution messages with the TradeLiquidityIndicator tag that are the result of MOC trading identify MOC trades as follows:
    - TradeLiquidityIndicator: FIX tag 9882, Position 3 (Trading Fees) = "M" (MOC Trade)

MOC Calculated Closing Price

The MOC calculated closing price is the price at which the maximum volume of MOC board lot, MOC odd lot, LOC board lot, LOC odd lot, and CLOB board lot orders can be matched.

To prevent the MOC calculated closing price from being too far away from the MRP at market close, the MRP is evaluated against defined MOC Closing Price Limit Thresholds (Table 3). If the MOC calculated closing price is outside of all the thresholds, the symbol enters EOP, otherwise the symbol closes at the calculated closing price.

The symbol enters EOP if it is outside of all the following threshold range limits[4]:

- The Price Threshold Percentage above or below the MRP;
- The Price Threshold Percentage above or below the last 20-minute Volume-Weighted Average Price (VWAP);
- 5 ticks above or below the MRP; and,
- 5 ticks above or below the last 20-minute VWAP.

Table 3: MOC Closing Price Limit Thresholds

MOC Reference Price (MRP)	Price Threshold Percentage (Closing Price's % Difference from the MRP/VWAP)	Ticks Away (from the Closing Price to the MRP/VWAP)	Closing Price's Failed EOP Maximum Deviation from the MRP (only applicable in EOP)
$0.9999 and under	5%	5	15%
$1.0000 and over	3%	5	10%

[4] If no trades have occurred within the last 20 minutes (i.e., there is no VWAP), VWAP is excluded from the threshold range limits.

Active / Passive Assignment

Since all MOC and LOC orders book, awaiting the MOC matching process, but many of these orders will trade with each other as well as with orders in the CLOB, a special methodology is required to assign an "active" (i.e., took liquidity) or "passive" (i.e., provided liquidity) state at the time of a trade, as follows:

- Orders in the CLOB that trade in the MOC match are marked as Passive, and MOC or LOC orders that trade against them are marked as Active.
- For MOC and LOC orders that trade in the MOC match with other MOC and LOC orders, the order entered first is marked as Passive, and the other order is marked as Active.
- For orders filled by the Market Maker, the Market Maker side is marked as Passive, and the counterparty side is marked as Active.

Odd Lot Fills

At least one board lot MOC trade or LOC trade must occur for MOC or LOC odd lot orders to trade. MOC or LOC odd lot orders can match with MOC or LOC board lot orders and other MOC or LOC odd lot orders, however, odd lots will only match with board lots when entire board lots can be matched. When MOC or LOC odd lot orders and the odd lot portion of MOC or LOC mixed lot orders match, the fill is facilitated by the Market Maker. MOC or LOC odd lot orders and the odd lot portion of MOC or LOC mixed lot orders are not guaranteed fills and are only filled if there is adequate volume on the opposite side.