

Virtu ITG Hong Kong

Operating Guidelines - POSIT
March 2021



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1. INTRODUCTION

Virtu ITG Hong Kong Limited (“VIHK”) holds a Type 1 and Type 7 license from the Securities and Futures Commission (“SFC”) (license number AHD810). It is a participant of the Stock Exchange of Hong Kong (“HKEx”). Under its Type 7 license, VIHK operates an equities alternative liquidity pool (“ALP”) for its clients called POSIT® in respect of a number of exchanges in Asia Pacific (each an “Exchange”).

POSIT is an ALP that offers an essentially continuous trading, supplemented by certain types of matches as described herein. POSIT will generally allocate trades for matching in equity securities on a size pro rata basis for price and volume-eligible orders.

The types of financial products that can be traded in POSIT are equity market products listed on a number of different Exchanges in Asia Pacific.

This document sets out the basis on which VIHK operates POSIT and it contains important information for POSIT users to explain the operating guidelines of POSIT.

This document will be updated when there are changes to the manner in which POSIT handles orders. Clients may request a copy of these guidelines at any time by contacting their Account Executive or the Compliance Department and a copy shall be provided within a reasonable time.

By placing an order with VIHK for POSIT, VIHK clients will be deemed to have accepted these guidelines and requirements set out herein.

In addition to these guidelines, VIHK discloses public information in respect of POSIT on its website. This information will be updated in accordance with section 11 of Schedule 8 to the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission (the “Code”) from time to time.

2. WHO MAY ACCESS POSIT?

Only clients of VIHK may have their orders submitted into POSIT. All of VIHK’s clients are qualified investors (as defined by Paragraph 19.2(f) of the Code) and can be categorized into the following broad groups of users (“users”):

- Institutional clients (such as but not limited to investment companies, fund managers, asset managers, hedge funds, dealers)
- The orders of third-party brokers may include principal trades placed on behalf of that third-party broker.
- Liquidity providers

To access POSIT, an entity must:

- be a qualified investor within the definition set out in Paragraph 19.2(f) of the Code
- meet VIHK’s Know-Your-Client and risk profile requirements
- enter into a written agreement with VIHK in respect of the brokerage services provided by VIHK and the type of trading undertaken by the entity with VIHK
- be approved as a client of VIHK by VIHK’s internal client approval process

Clients of POSIT can request to block interaction against specific counterparties within POSIT. VIHK will not disclose the identities of the restricted counterparties and/or other confidential client information.

By way of clarification, a reference in these guidelines to a “client” includes a reference to a “user” of POSIT. The term “user” includes any client and a client of a client that is a qualified investor



which is ultimately responsible for originating the instruction in relation to an order placed into POSIT.

Opting out of POSIT

Access to POSIT is available for all of VIHK's clients. Clients may opt out of POSIT at any time and for no charge by contacting their Account Executive or emailing VIHK's Compliance team (ap-compliance@virtu.com).

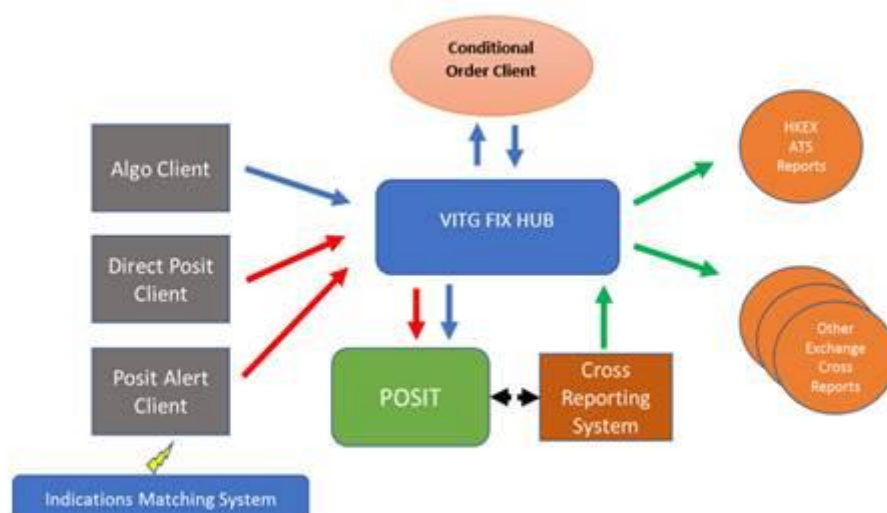
Proprietary Orders in POSIT

At this stage, there is no proprietary VIHK orders placed into POSIT.

3. ACCESS TO POSIT AND ORDER ROUTING

A client may choose how it wishes to access POSIT. A client may send orders to VIHK's Trading Desk for placement of the order into POSIT by a VIHK trader. A client may also access POSIT directly via electronic connection.

Orders sent into POSIT are routed in the manner set out below:



Accessing POSIT via VIHK Algorithms

If a client wishes to access POSIT via VIHK Algorithms, the client will need to comply with the algorithm FIX specification provided by VIHK to the client.

VIHK Algorithms govern a client's interaction with POSIT, therefore, there are no further prescriptive requirements or rules for clients who use POSIT other than those identified in this document (e.g. order types).

Accessing POSIT directly

To access POSIT directly, users will need a FIX connection to VIHK's order handling system. VIHK will provide the client with the necessary FIX specification for POSIT. POSIT has not been integrated with any buy-side trading systems, therefore, a prospective POSIT user will have to



develop a bespoke process to connect to POSIT. VIHK works with these types of clients to assist them in this process.

Accessing POSIT via POSIT Alert

VIHK operates POSIT Alert, an indications matching system. POSIT Alert exists outside of (and is independent) of POSIT and identifies potential contra-side matches among human user participants of POSIT Alert and other electronic conditional orders generated by institutions, broker-dealers, and child orders from VIHK algorithms (collectively known as “Participants”). POSIT Alert informs Participants of a matching opportunity so that they can submit orders to POSIT for crossing. Following the notification of the POSIT Alert matching opportunity, POSIT will attempt to cross orders submitted to it by these POSIT Alert Participants with orders from other POSIT Alert Participants. POSIT Alert Participants only shall be able to seek to undertake lunch-time crosses in Hong Kong and Japan equities (even when the relevant exchanges are closed for trading), with such prices being the mid-price if valid Bid/Ask quotes are available.

Order Routing to Third-Party operated ALPs

POSIT does not route orders to third-party brokers crossing systems. If a client wish to access and route orders to a third-party operated crossing systems, the client may do so via Virtu’s liquidity seeking dark algorithms. Links to the operating procedures for third-party brokers are included in Section 9 of these guidelines on a best efforts basis only by VIHK, users are expected to verify for themselves in case any of these third-party broker ALP guidelines have been amended and/ or updated.

4. USER OBLIGATIONS AND RISKS

POSIT User Obligations

By being granted access to POSIT, all POSIT users hereby agree to place orders into POSIT in a manner that is not detrimental to other POSIT users or the POSIT system itself.

Each time a client places an order in POSIT, it agrees that:

- if an order is a short sell order (as deemed so by the relevant rules and regulations (“the Applicable Rules”) of an Exchange and is permitted by such Applicable Rules, then it will notify VIHK of this prior to or at the time that it placed the order;
- the order complies in all respects with all applicable Rules of the Stock Exchange of Hong Kong (“HKEx”), the relevant provisions of the SFO and/or the Applicable Rules of any other relevant Exchange;
- it will send orders to POSIT in accordance with the FIX specifications;
- its trading behaviour is not detrimental to the POSIT trading system or other users of the system; and
- for self-match orders, the orders placed into POSIT effect a change in beneficial ownership.

VIHK, in its sole discretion, may determine what behaviour is detrimental to the system.

Potential Risks of Placing Orders in POSIT

POSIT users should be aware of potential risks when placing orders into POSIT. For example, a potential risk a client takes when placing an order into POSIT is that the POSIT system may experience a technical issue and need to be shut down for a period of time. If this is to occur, no orders will be matched in POSIT. To a client, this means that an order it sends into POSIT prior to



such an event occurring will not have their order matched if there was a corresponding order in POSIT at the time.

Other risks that a client takes when placing an order into POSIT may include, but are not limited to:

- partial completion of an order or an incomplete order;
- missing liquidity in other trading venues;
- potential for adverse selection; and
- mispriced execution.

5. ORDER TYPES

A POSIT user can place the following types of orders into POSIT:

- Order Types: Peg
- Peg Types: Aggressive, Mid, Passive
- Time in Force: Day and IOC
- Pricing: Limit and Market

POSIT does not accept any other types of orders and all POSIT users are able to place any of these types of orders in POSIT.

Orders submitted to POSIT must also be designated with a time in force: “Day” or, as permitted by VIHK, Immediate-or-Cancel (“IOC”). Day Orders (also known as “resting orders”) may be submitted to POSIT prior to the market open and at any time during the regular trading day and are held in the system’s order book until they are matched, cancelled, or expire. Users may submit Day Orders and IOC Orders that include various forms of trading constraints such as expiration of time or price protection.

All orders in POSIT contain peg instructions, designated as “Passive,” “Midpoint,” or “Aggressive.” Each order submitted to POSIT without an explicit peg instruction is assigned a default peg instruction. These default instructions are set at the user’s request or by VIHK. Unless the user otherwise specifies a different peg instruction on a given order, the default peg instruction will govern an order’s execution. POSIT will, however, reject Passive IOC Orders. IOC orders may be prohibited in VIHK’s discretion.

Users can include a minimum execution quantity (“MEQ”) constraint on their orders. These can either be configured as a default value or sent in as a parameter on individual orders. Where MEQ is applied, POSIT will not execute the order in an amount less than such minimum quantity. However, when the remaining quantity on the order is less than the minimum execution quantity, POSIT will not automatically cancel back the remaining quantity of the order, but will attempt to execute that unfilled portion in a single execution. Users can also request that they only execute against a single contra that meets the minimum quantity constraint for their order. If users do not request this, POSIT may consolidate contra interest to meet a user’s MEQ constraint. Further, users can request that POSIT always cancel remaining shares after an execution where the remaining quantity on the order is less than the MEQ.

Users may request that POSIT apply certain default constraints or attributes to the user’s orders submitted to POSIT. Minimum share quantity constraints and, as noted above, default pegging instructions may be overridden by users on an order-by-order basis. User-requested default behaviours (and any customizations to the processing of FIX messages requested by the user), may reduce the likelihood of receiving an execution in POSIT and also may result in added processing latency.

¹ a Passive buy order is tradable at the National Best Bid (“NBB”) and a Passive sell order is tradable at the National Best Offer (“NBO”). A Midpoint buy order is tradable at the National Best Bid Offer (“NBBO”) midpoint or better and a Midpoint sell order is tradeable at the NBBO midpoint. An Aggressive order is tradable at the NBB, NBBO midpoint, or NBO.



Orders must be in round or mixed lots. Odd-lot orders are cancelled back to users. If a mixed-lot order is sent to POSIT, only round lot portions of that order will be eligible for trading, and the odd lot residual is cancelled.

When an order is submitted to POSIT, the system scans for available liquidity to determine whether there is a contra-side Day Order residing in the system. If there is no contra-side Day Order in POSIT, a Day Order will rest in the system and an IOC Order will be cancelled and returned. Unexecuted Day Orders are cancelled in accordance with the instructions of the submitting Users, or by default at the close of regular trading in the market.

POSIT does not simultaneously post orders it has received onto an Exchange.

POSIT Alert Crosses: Interaction of POSIT Alert crosses in POSIT

VIHK operates POSIT Alert, an indications matching system. POSIT Alert exists outside of (and is independent of) POSIT, and identifies potential contra-side matches among human user participants of POSIT Alert and other electronic conditional orders generated by institutions, broker dealers and orders from VIHK algorithms (collectively known as “Participants”). POSIT Alert informs Participants of a matching opportunity so that they can submit orders to POSIT for crossing. Once a Participant receives the notification from POSIT Alert of a potential match, the Participant has a defined period of time to submit an order to POSIT through a separate POSIT Alert destination. Orders submitted by POSIT Alert users/ Participants to an POSIT Alert destination may only participate in POSIT Alert crosses executed in POSIT. POSIT Alert Participants only shall be able to seek to undertake lunch-time crosses in Hong Kong and Japan equities (even when the relevant exchanges are closed for trading), with such prices being the mid-price if valid Bid/Ask quotes are available.

The POSIT Alert system has the following interactions with POSIT:

- a. POSIT Alert informs POSIT of anticipated order counts for Participant buy and sell orders to be submitted to POSIT, as well as any changes in those order counts.
- b. POSIT Alert informs POSIT of a time before which all Participants may submit orders to the POSIT Alert destination.
- c. POSIT informs Alert of all information associated with the orders submitted through the POSIT Alert destination, including the outcome of a match.
- d. POSIT also communicates to POSIT Alert static client information prior to the start of trading, including configurations that may restrict crossing outcomes, or instances where a match may not be consummated, for example, based upon a default minimum share constraint.
- e. POSIT will inform POSIT Alert of operational status information.

Upon request from a client, POSIT will apply a maximum notional value constraint to a POSIT Alert user's order. In addition, upon request, POSIT will aggregate a POSIT Alert user's orders for execution. Where such POSIT Alert orders have a common minimum execution quantity constraint, POSIT will apply the minimum execution quantity constraint on the aggregated POSIT Alert order.

Once POSIT Alert informs POSIT of expected Participant order count and maximum time period before which Participants may submit orders, POSIT starts a cross timer. POSIT will attempt to run a POSIT Alert cross once the expected count of orders has been received. If not all Participant orders arrive at the end of the pre-determined maximum time, POSIT will attempt a POSIT Alert cross among the Participant orders received. POSIT returns all open shares submitted for POSIT Alert cross at the earlier of completion of a successful cross or upon the lapse of the cross timer. Participant orders routed to POSIT in response to a POSIT Alert may only execute in a POSIT Alert cross and may be cancelled or corrected before the cross occurs. Following a POSIT Alert cross, any remaining quantity is cancelled back to the Participants.



In the event a cross is not possible due to a marketability constraint, POSIT will retry crossing with every NBBO change while the cross timer runs and there is one or more non-marketable POSIT Alert order. If all POSIT Alert orders are marketable and a cross still cannot be consummated due to other constraints, POSIT will return all POSIT Alert orders until the cross timer expires. POSIT will return unmatched shares for POSIT Alert orders once a cross is consummated, or upon the lapse of the cross timer.

6. TRADING and OPERATIONAL MATTERS

POSIT Matching

POSIT matches orders on an essentially continuous basis during standard Exchange hours. Client orders that are not otherwise designated to participate in one of POSIT's other match types participate in these continuous matches for as long as the Client's order is in force or until it is fully executed according to its terms.

Order Handling in POSIT and Execution Methodology

POSIT is premised on matching buyers and sellers with marketable orders at or within the prevailing spread at the corresponding market venue.

The core crossing mechanism in POSIT will match all eligible orders (i.e. marketable limit orders) and will allocate fills on a prorated basis. Thus, larger orders obtain a larger proportion of the fill.

This logic, as described in greater detail below, is subject to a number of constraints such as:

- minimum fill quantity (these may be user defined or mandated by the regulations of the various Exchanges);
- user type constraint (ie. one user type (e.g. Institution) wishing to avoid crossing with another user type (e.g. a Broker));
- limit price constraint (this may make the order unmarketable at the time of the cross);
- peg instructions (discussed further below); and
- self match constraint (when elected, orders will only execute against a user's own orders).

In addition to the above, POSIT users should be aware of the following:

- the priority logic in POSIT will match aggressive pegged orders against aggressive and midpoint pegged orders at the same time; any residual will be matched with passively pegged orders.
- passively pegged orders can only be matched against aggressive orders;
- mid-pegged orders can be matched against both aggressive and other mid-pegged orders.
- For the sake of clarity, users should note that POSIT does not have any time priority of orders.

A client sending orders into POSIT has the choice of determining whether it wants its orders to interact with some or all of the different types of clients that send orders to POSIT. If a client wishes to restrict the types of counterparties they interact with in POSIT, they can do so by contacting their Account Executive.

Allocation and continuous crossing

On an essentially continuous basis, POSIT assesses Day Orders residing in the system and matches contra-side Day Orders in the same security that satisfy applicable trading constraints.



Additionally, Day Orders in POSIT will be matched immediately with contra-side IOC Orders if all applicable trading constraints are met. Day Orders can be matched with Day Orders and/or IOC orders; however, IOC orders can only be matched with Day Orders.

As described above, POSIT matches orders only at the midpoint of the NBBO, the NBO or the NBB. In the first instance, POSIT will attempt to cross eligible orders at the midpoint of the NBBO. If midpoint pricing is unavailable, POSIT will then look to other matching opportunities at the NBB or NBO, as applicable. For example, when an Aggressive Order is received by POSIT, POSIT will first seek to match that order with a Midpoint Order or Aggressive Order capable of execution at the NBBO midpoint, and would subsequently seek to match that order with Passive Orders² and price-protected Midpoint Orders that were not capable of being crossed at the NBBO midpoint due to their limit price, but whose limit price is at or within the NBBO.

The following are examples of this process. For the purposes of each example, assume the NBBO for security XYZ is \$20.00 x \$20.04 (unless otherwise stated). In addition, in each example, assume there are no other XYZ orders in the system other than those described in the example. The sizes referred to are examples only.

Example 1:

In POSIT there is a Passive Day order to buy 1,500 shares of XYZ, without price protection. An Aggressive Day order to sell 1,000 shares XYZ with price protection of \$20.00 arrives in POSIT. The Aggressive Day order will cross with the Passive Day order, and a trade for 1,000 shares at \$20.00 will be executed.

Example 2:

In POSIT there is a Passive Day order to buy 1,500 shares of XYZ with price protection of \$20.01. An Aggressive IOC Order to sell 2,000 shares XYZ with price protection of \$20.00 arrives in POSIT. The Aggressive IOC order will cross with the Passive Day order, and a trade for 1,500 shares of XYZ will be executed at \$20.00.

Example 3:

In POSIT there are two Midpoint Day Orders to sell XYZ – (1) an order to sell 3,000 shares without price protection, and (2) an order to sell 5,000 shares with price protection of \$20.03. An Aggressive IOC order to buy 4,000 shares of XYZ arrives. POSIT will first cross the marketable IOC Order with the Midpoint Order without price protection and execute a trade of 3000 shares at the midpoint of the NBBO (\$20.02). The second Midpoint Order cannot be executed at the midpoint because of the User's specified price protection of \$20.03. However, the remaining 1000 shares of the Aggressive IOC Order will be crossed against the Midpoint Order with price protection of \$20.03 at the offer, or \$20.04, as that price is consistent with that Order's price protection.

Example 4:

In POSIT there is a Midpoint Day Order to sell 1000 shares of XYZ with price protection of \$20.03. An Aggressive IOC Order to buy 400 shares of XYZ is received by POSIT. Since the prevailing midpoint (\$20.02) does not satisfy the Midpoint Day Order's price protection, it cannot be executed at the then-current midpoint of the NBBO. Because it can, however, be executed at the offer, a trade of 400 shares at \$20.04 will be executed. The remaining 600 shares of the Midpoint Day Order will remain in POSIT and will continue to have price protection of \$20.03. If the NBBO adjusts so that the bid/offer is now \$20.01 x \$20.05 (with a midpoint of \$20.03), and an Aggressive IOC Order to buy 600 shares is received, a trade will be executed against the residual of that same Midpoint Day Sell Order. Because the client's price protection now allows that trade to be executed at the current midpoint of the NBBO, a midpoint trade for 600 shares will be executed at a price of \$20.03.



- ² A Passive Order may only trade against an Aggressive Order, and only if neither order is price-protected in such a way as to prevent the trade. A Passive buy order may trade against an Aggressive sell order at the NBB, assuming no prohibitive price protection. If, for example, the Aggressive sell order has a limit price greater than the NBB, the orders are not capable of crossing.

Example 5:

In POSIT there is a Midpoint Order to buy 2,000 shares of XYZ with price protection of \$20.02 and a Passive Order to buy 5,000 shares of XYZ with price protection of \$20.00. An Aggressive IOC Order to sell 1,500 shares of XYZ with price protection of \$20.00 arrives. The Midpoint order and the IOC order will cross 1,500 shares of XYZ at a price of \$20.02. The Passive buy order does not receive any fill.

Standard pro-rata allocation:

POSIT matches and executes trades in equity securities on a size *pro rata* basis, subject to the trading constraints attached to the orders available for matching and other eligibility criteria (e.g., parameters relating to size of orders that can be broken up for allocation purposes). The allocation logic in the examples below, unless otherwise specified, reflects interactions of orders with no execution related trading constraints.

POSIT allocates the available shares on a pro-rata basis, i.e., a larger allocation will be given to a larger order, as seen in the two examples below.

Example 1:

Side	Size	Pro-rata allocation	Traded
B	1000	400	400
B	500	200	200
S	600	600	600

Example 2:

Side	Size	Pro-rata allocation	Traded
B	5000	2500	2500
B	5000	2500	2500
B	10000	5000	5000
S	10000	10000	10000



Pro-rata allocation and rounding:

Example 3:

When pro-rata allocation would not result in a round lot size, the pro-rata allocation is rounded up to or down to the next round lot size.

Side	Size	Pro-rata allocation	Traded	Remarks
B	1000	333 → 300	300	rounded down to the next round lot size
B	500	167 → 200	200	rounded up to next round lot size
S	500	500	500	

Example 4:

Equal size orders can be chosen randomly for pro-rata allocation; orders are not allocated based on a pre-determined methodology. Because orders are allocated in a random manner, orders of the same size will experience variations in allocation, as demonstrated in the following example:

Side	Size	Pro-rata allocation	Traded	Remarks
B	1000	250 → 300	300	rounded up to next round lot size
B	1000	250 → 300	300	rounded up to next round lot size
B	1000	250 → 300	300	rounded up to next round lot size
B	1000	250 → 100	100	received only the remaining 100 shares
S	1000	1000	1000	

Example 5:

In certain instances, pro rata logic can result in no allocation being given to an order based on logic that rounds down allocations of less than 50 shares:

Side	Size	Pro-rata allocation	Traded	Remarks
B	1000	91 → 100	100	rounded up to next lot size
B	100	9 → 0	0	
S	100	100	100	

Mixed-lot allocations will be rounded up or down to the nearest round lot until the available shares are exhausted. In cases where the rounding logic would result in more than the total contra order size, the allocation for remaining orders will be decremented. The examples below demonstrate different potential outcomes under the random allocation logic:



Example 6:

Side	Size	Pro-rata allocation	Traded	Remarks
B	1000	500	500	
B	1000	500	500	
B	500	250 → 300	300	rounded up to next round lot size
B	500	250 → 200	200	rounded down to the next round lot size
S	1500	1500	1500	

Example 7:

Side	Size	Pro-rata allocation	Traded	Remarks
B	500	250 → 300	300	rounded up to next round lot size
B	500	250 → 300	300	rounded up to next round lot size
B	1000	500	500	simple pro-rata, no rounding up needed
B	1000	500 → 400	400	100 shares decremented from pro rata due to rounding up others
S	1500	1500	1500	

POSIT trades in round lots. If POSIT receives a mixed-lot sized order, POSIT will attempt to trade the round-lot portion of the order and return the remaining odd-lot quantity.

For an order sent with a mixed-lot size as minimum shares, POSIT will attempt to satisfy the constraint while assuming the closest round-lot quantity that is greater-than the sent minimum shares constraint. The following examples assume lot size of 100.

Example A:

Side	Size	Traded	Remarks
B	650	600	only round-lot portion is traded
S	650	600	only round-lot portion is traded

Example B:

Side	Size	Traded	Remarks
B	650	600	only round-lot portion is traded
S	350	300	only round-lot portion is traded
S	300	300	fully traded; order size in round lot



Example C:

Side	Size	Minimum Shares	Traded	Remarks
B	950	910	0	No trade; contra shares < min shares
S	800		0	

Pro Rata Logic to Accommodate Orders with Minimum Shares

POSIT has two parameters that influence allocation behaviour where an order has an MEQ Constraint specified by the client:

1. The percentage of pro-rata allocation can be re-allocated. The pro-rata reallocation ratio is 80/20. This means that if an order is getting 1000 shares as per initial pro-rata calculation, 80% (800 shares) will be allocated, and 20% (200 shares) can be used to satisfy the minimum shares of other, larger orders with a minimum quantity size.
2. There is a threshold above which the 80/20 rule applies. Orders with pro-rata allocations equal to or less than USD500 in value are not guaranteed any allocation.

If multiple orders do not meet their MEQ Constraints in the initial allocation, order size priority is used as a tie-breaker to allocate additional shares to satisfy MEQ Constraints. In cases where order size is the same, orders will be chosen in the same manner as the pro rata share allocations described above.

Scenarios with MEQ Constraints:

The below examples demonstrate the re-allocation logic where orders have MEQ Constraints. In all cases assume the price of the security is equivalent to USD1 and a round lot size is 100:

Example 8:

Minimum of 500 shares is met by re-allocating 100 shares (round lot size):

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	1000	500	400	500	re-allocated to meet MEQ Constraint
B	500		200	100	initial allocations equal to or less than USD500 are not guaranteed any allocation
S	600		600	600	



Example 9:

Minimum of 600 shares is met by re-allocating 200 shares:

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	1000	600	400	600	re-allocated to meet MEQ Constraint
B	500		200	0	initial allocations equal to or less than USD500 are not guaranteed any allocation
S	600		600	600	

Example 10:

Minimum of 1400 shares is met by re-allocating 200 shares (20% rounded up to round lot size):

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	2000	1400	1200	1400	reallocated 200 shares to meet MEQ Constraint
B	1000		600	400	200 shares of the 600 share original pro rata allocation are reallocated from this order (i.e., a reallocation of up to 20% (USD120/120shares), rounded up to the round lot size of 200 shares)
S	1800		1800	1800	

Example 11:

Pro rata allocation where multiple MEQ Constraints are not met and the largest order not satisfying these constraints is given priority:

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	1000	700	600	900	re-allocated to meet MEQ Constraint
B	500	400	300	0	pro rata share allocation does not meet MEQ Constraint
S	900		900	900	



Example 12:

Where a pro rata allocation falls below a MEQ Constraint, POSIT may not reallocate, leaving orders partially filled:

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	2000	1500	1200	0	MEQ Constraint not satisfied
B	1000		600	1000	under the 80/20 rule, this pro-rata allocation could only be reduced by USD200/200 shares; since 1400 shares would not meet the larger order's minimum, the larger order is not filled and this order is filled in its entirety
S	1800		1800	1000	seller receives a partial fill

Example 13:

Minimum of 1000 shares is met by re-allocating all shares from smaller orders:

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	1000	1000	700	1000	MEQ Constraint satisfied
B	300		200	0	initial allocations equal to or less than USD500 are not guaranteed any allocation
B	200		100	0	initial allocations equal to or less than USD500 are not guaranteed any allocation
S	1000		1000	1000	

Meeting MEQ Constraints with multiple counterparties:

Example 14:

Unless otherwise specified, POSIT will satisfy MEQ Constraints by aggregating contra side orders.

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	1000		1000	1000	
B	1000		1000	1000	
S	2000	2000	2000	2000	MEQ Constraint satisfied by aggregating contra side orders

Users may opt out of having their order(s) executed against the aggregated orders of multiple counterparties. If the orders have a minimum shares per contra party requirement, and there are multiple parties to trade on the other side, POSIT allocates the available shares pro-rata while honouring any MEQ Constraint.



Example 15:

Simple pro-rata, Seller with MEQ Per Counterparty Constraints with multiple counterparties resulting in no execution:

Side	Size	MEQ Per Counterparty Constraint	Pro-rata allocation	Traded	Remarks
B	1000		0	0	no pro rata allocation or trade; contra MEQ Constraint not met
B	1000		0	0	no pro rata allocation or trade; contra MEQ Constraint not met
S	2000	2000	0	0	could not trade all 2000 with any single contra

Example 16:

Simple pro-rata, Seller with MEQ Per Counterparty Constraints with multiple counterparties resulting in an execution:

Side	Size	MEQ Per Counterparty Constraint	Pro-rata allocation	Traded	Remarks
B	1000		1000	1000	
B	500		0	0	no pro rata allocation or trade; contra MEQ Constraint not met
B	900		0	0	no pro rata allocation or trade; contra MEQ Constraint not met
B	1000		1000	1000	
S	2000	1000	2000	2000	traded with contras that can trade at least 1000

Example 17:

Simple pro-rata, multiple orders with MEQ Constraint:

Side	Size	MEQ Constraint	Pro-rata allocation	Traded	Remarks
B	20000	4000	0	0	no pro rata allocation or trade; MEQ Constraint not met
B	10000		5000	5000	this order trades against the two sell orders
S	2000	1000	2000	2000	
S	3000	1000	3000	3000	



Pricing of Orders in POSIT

The price of an order matched in POSIT depends upon the limit prices and the pegging instructions on the orders in the match. Typically, it will be priced at midpoint of the current Bid and Offer made available by Virtu's Direct feed for developed Asia Pacific markets and the quote feed of a third-party market data vendor for all other Asia Pacific markets POSIT, however, it is possible for the executed price to be at the last Bid, Ask or mid price.

POSIT operation hours

POSIT operates essentially during the continuous trading sessions on the days upon which the relevant Exchange is open in respect of securities which have a valid quote on the Exchange (ie. POSIT will not operate in respect of securities that are in a trading halt). If an Exchange is closed for a day, the relevant instance of POSIT will not operate for that day.

For lunchtime crossings (POSIT Alert Participants only), please refer to Section 3 Accessing POSIT via POSIT Alert.

After Market Close on each trading day, all orders in POSIT are removed and no orders remain in POSIT to trade on the next trading day.

Order cancellations

Order cancellations and amendments are made by the user by sending a standard FIX cancellation or cancel/replace request to POSIT.

Visibility into POSIT

Only selected employees have visibility into the contents of POSIT's order-matching pool and the pre-trade information contained therein. These employees include, product management, software developers, operations personnel, legal, compliance and other support personnel who may need access in the normal course. No external party or internal trading desk has access to this information. Set out below is a list of the employees that have access to the contents of the POSIT order matching pool, the relevant order and trading information inside that pool, and employees that have access to post trade information up to T+2.

Title	Department	Reason for Access
Head of Region – Asia Pacific and Product Manager, Middle and Back Officer – Asia Pacific	Administration	Run reports in respect of POSIT activity
Application Support Team Member	Core Ops	First Level Support to clients
Development Team Member	Development	Second Level Support to clients



Product Manager - POSIT	Liquidity Sourcing	Specialised expertise in POSIT operation
POSIT Alert Support Team	POSIT Alert Core Ops	Support for POSIT Alert clients that have orders sent to POSIT
Database Administrator	Technology Infrastructure	First and second level support for POSIT database
Operations Officers	Operations	Bookings and settlement of POSIT orders. Post trade information only
Trading Analyst	Middle and Back Office	Reporting and analytics purposes. Post trade information only

Internal Control Procedures

On a daily basis, the various Support and Development employees identified above ensure that POSIT is functioning as intended.

Once per month, VIHK generates a report in respect of the performance of each instance of POSIT. This report tracks various parameters including (but not limited to) usage, average price improvement and adverse selection. This report is reviewed by the Responsible Officer and Product Manager for POSIT and any issues arising from the report are then addressed with either the product or (if client specific) with the respective client.

In addition, VIHK operates post-trade surveillance of orders in Hong Kong POSIT to detect issues that may arise from orders placed into POSIT. These alerts are reviewed daily and any issues of concern are brought to the attention of management.

Reporting of orders matched in POSIT

Orders matched in POSIT are trade reported to the relevant Exchange. For POSIT Hong Kong, that is to the HKEx by VIHK within the time frame specified by the relevant rules. For all other Exchanges, it is to the relevant Exchange by a licensed local broker in the relevant jurisdiction.

Aggregation of Client Orders

POSIT aggregates the orders of different POSIT users to meet MEQ.

Suspension of POSIT

VIHK will suspend the operation of POSIT if there is a technical or other system issue in respect of POSIT that materially affects the efficient or proper functioning of POSIT. In such instances, the matching engine of POSIT will be suspended and POSIT may reject any new orders sent into the system and cancel any existing open order in POSIT at the time.

The procedure in respect of client notification of such suspensions and/or issues is set out in detail below.



System failures and outages

If there is a technical or other system issue in respect of POSIT that causes a material delay or failure to the operation of POSIT, the VIHK POSIT Support Team will notify VIHK's Compliance Team and inform it of the issue.

The VIHK Compliance Team will then notify the SFC of the following:

- a description of the effect or the technical and/or other system issue;
- the causes or possible causes of the material delay or failure to the operation of POSIT affecting clients with orders in POSIT; and
- how the issue is being managed by VIHK.

VIHK will also notify all clients that have orders in POSIT at the time of the issue of the above and keep them updated if necessary.

Once the issue is resolved, the VIHK Compliance Team will notify the SFC of the resolution and VIHK will notify all clients that have orders in POSIT at the time of the issue of the same.

During such an issue, VIHK is able to suspend symbols in POSIT which results in no matches taking place in POSIT. VIHK can also cancel open orders in POSIT and reject new orders from being submitted into POSIT.

In addition, clients should be able to cancel out their orders from POSIT depending upon the nature of the issue. If this is not possible, the client can contact its Account Executive or the VIHK Trading Desk and instruct them to cancel its orders on its behalf.

In the event of the suspension of POSIT, VIHK will not re-route new or existing orders in POSIT to alternative execution venues.

Conflicts of Interest in POSIT

At this stage, there is no proprietary VIHK orders placed into POSIT. VIHK's foreign broker-dealer affiliates may route orders to VIHK for execution in POSIT.

In addition, POSIT does not give any form of preferential matching based on agreed commission rate.

In these circumstances, VIHK is yet to identify and/or experience a conflict of interest arising from POSIT. If a conflict of interest did arise, it would be escalated to VIHK's Senior Management and the Head of Compliance – Asia Pacific for consideration and any required action.

7. FEES

Orders placed into POSIT that are matched attract a brokerage commission fee that is predetermined through negotiations and is standard to the client. These fees are not in addition to VIHK's standard commission rates.

VIHK does not implement a fee structure whereby fees are determinate by user type. Rather, POSIT fees are negotiated on a client-by-client basis. There is no preference or effect on an order's interaction with POSIT which is in any way linked to client fees.

8. FAIR TREATMENT OF POSIT USERS



POSIT is operated by a common set of procedures for all users with the exception that liquidity from POSIT Alert Participants are segregated from POSIT's liquidity for matching purpose.

VIHK monitors and from time to time analyzes the interaction in POSIT to monitor consistent treatment of client orders across various aspects.

For the avoidance of doubt, this extends to POSIT orders received from clients that are related bodies corporate to VIHK and to orders from third-party brokers and/or liquidity providers.

9. LEGAL INFORMATION

Audience

The intended audience for this document is all clients of VIHK that access VIHK's ALP called POSIT.

Note to clients

VIHK may modify these guidelines at any time and at its own discretion. Upon modification, VIHK will notify its clients of the changes to the guidelines. By placing an order with VIHK for POSIT, clients will be deemed to have accepted these guidelines in their current form at the date of the placement of the order.

Nothing in these guidelines should be taken as legal advice or a guide to action. Any failure by VIHK to comply with these guidelines does not constitute a breach of VIHK's Terms of Business with a client.

Links to the operating guidelines of third-party ALPs that clients may send orders to via VIHK are embedded below on a best efforts basis only by VIHK. Such guidelines may be revised from time to time by the respective third parties. Users are expected to verify for themselves in case any of these third-party broker ALPs guidelines have been amended and/ or updated.

<u>Name</u>
<u>ASX Centre Point</u>
<u>CLSA Crossing Engine</u>
<u>Credit Suisse - CrossFinder™ Australia</u>
<u>Credit Suisse - CrossFinder™</u>
<u>Instinet - BLX Australia</u>
<u>Instinet CBX</u>
<u>JP Morgan - JPM-X – Australia</u>
<u>JP Morgan - JPM-X</u>
<u>Liquidnet</u>
<u>Merrill Lynch - Instinct X</u>
<u>Goldman Sachs - SIGMA X - Australia</u>
<u>Goldman Sachs - SIGMA X</u>
<u>Virtu ITG – POSIT Australia</u>



SMBC Nikko – Japan only³

Contact

For more information about this guideline or its contents, please contact your VIHK Account Executive or VIHK's Compliance Department at ap-compliance@virtu.com.

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³ SMBC Nikko disclosure is available on request.