

Part II: Activities of the Broker-Dealer Operator and its

Affiliates

Item 2: Affiliates Trading Activities on the ATS

- a. Are Affiliates of the Broker-Dealer Operator permitted to enter or direct the entry of orders and trading interest into the NMS Stock ATS?

☒ ☐ Yes

☐ ☐ No

If yes, name and describe each type of Affiliate that enters or directs the entry of orders and trading interest into the ATS (e.g., broker-dealer, NMS Stock ATS, investment company, hedge fund, market maker, principal trading firm), and, for each Affiliate, provide the applicable MPID and list the capacity of its orders and trading interest (e.g., principal, agency, riskless principal).

~~The following entities are U.S. Affiliates of the Firm that can enter or direct the entry of orders to either MatchIt crossing session:~~

~~Virtu Financial Capital Markets LLC (“VFCM”) is a U.S. broker-dealer that provides algorithms and routing services to VAL, which is VFCM’s only client. VAL transmits orders to VFCM that originate from VFCM, the Institutional Desk, the ETF Desk and VET. VFCM enters or directs the entry of all orders received from VAL, irrespective of the capacity transmitted by VAL to VFCM, as agent to both MatchIt crossing sessions utilizing the MPID EWTT.~~

Virtu ITG LLC (“VIL”) is a U.S. broker-dealer that provides execution services to clients and operates the POSIT ATS (“POSIT”). VIL ~~ordinarily can~~ enters or directs the entry of orders as agent utilizing the MPID ITGI to either MatchIt crossing session. VIL does not trade for its own account in the ordinary course but may enter or direct the entry of orders as principal in connection with errors or accommodations.

~~VAL, VFCM and VIL enter or direct the entry of orders for other Affiliates, including Virtu AlterNet LLC, a U.S. broker-dealer that provides net trading and step out services to other broker-dealers utilizing the MPID ALTX, and on behalf of non-U.S. Affiliates in Canada, the EU region, and the Asia Pacific region. The Firm’s non-U.S. Affiliates trade for their own accounts and provide services to clients globally. VAL, VFCM and VIL enter or direct orders to the ATS for these Affiliates as agent or riskless principal using a VAL MPID in the case of VAL entering the order, a VFCM MPID in the case of VFCM entering the order or a VIL MPID in the case of VIL entering the order.~~

Item 3: Order Interaction with Broker-Dealer Operator; Affiliates

- a. Can any Subscriber opt out from interacting with orders and trading interest of the Broker-Dealer Operator in the NMS Stock ATS?

☒ ☐ Yes

☐ ☐ No

If yes, explain the opt-out process.

The Firm and its Affiliates provide algorithms to clients which enter or direct the entry of orders to

MatchIt and other trading centers. These clients are Indirect Subscribers of the ATS. The Firm makes the Virtu Principal Opt Out available only to these Indirect Subscribers. This opt out will prevent interaction with VAL orders submitted ~~under the MPIDs NITE, VALX and VIRT by VPMM, as described in Part II, item 1(a).~~ See, Part III, Item 7 addressing order types and instructions; and Part III, Item 14 addressing counterparty selection.

Indirect Subscribers may not opt out of interaction with principal orders related to the facilitation of client orders. Direct Subscribers are broker-dealers, including VAL, VAL affiliates, and clients that have been approved to send orders directly to MatchIt. Clients acting as a Direct Subscribers do not have the option to opt out of interacting with the orders and trading interest of the Broker-Dealer Operator.

For Indirect Subscribers opting out of interacting with eligible orders, the Firm sets a configuration in the Indirect Subscriber's algorithmic profile settings. When the algorithms enter or direct an order to MatchIt, the configuration is checked and an opt-out instruction is placed on the FIX Protocol message. The ATS's matching logic reads these messages to determine which orders are eligible for matching.

Item 5: Other Products and Services

- c. Does any Affiliate of the Broker-Dealer Operator offer Subscribers, the Broker-Dealer Operator, or both, any products or services for the purpose of effecting transactions or submitting, disseminating, or displaying orders or trading interest in the NMS Stock ATS?

☒ ☐ Yes ☐ ☐ No

If yes, identify the products or services offered, provide a summary of the terms and conditions for use, and list here the applicable Item number in Part III of this form where the use of the product or service is explained. If there is no applicable item in Part III, explain the use of the product or service with the ATS here.

~~VFCM is an Affiliate of VAL that provides algorithms to VAL which VAL makes available to its internal desks, and which VAL offers to its own clients and clients of Affiliates. All orders are transmitted first to VAL then to VFCM and then to MatchIt. See, Part II, Item 2 for a description of VFCM, and Part III, Item 5(c) for a description of the algorithms provided by VAL and its Affiliates.~~

VIL is an Affiliate of VAL which makes algorithms available to its internal desks and offers algorithms to its clients. VAL and VIL Affiliates in Canada, the EU region, and the Asia Pacific region transmit orders to these algorithms. All of these algorithms provide Indirect Subscribers with indirect access to MatchIt. See, Part II, Item 2 for a description of VIL and other Affiliates. VAL, VIL and their Affiliates require clients to enter into electronic access agreements to use algorithms and be on-boarded by the legal entity providing the services on similar terms and conditions as those described in Part II, Item 5(b).

Part III: Manner of
Operations

Item 7: Order Types and Attributes

- a. Identify and explain each order type offered by the NMS Stock ATS. In your explanation, include the following:
 - i. priority, including the order type's priority upon order entry and any subsequent change to priority (if applicable); whether and when the order type can receive a new time stamp; the order type's priority vis-à-vis other orders on the book due to changes in the NBBO or other reference price; and any instance in which the order type could lose execution priority to a later arriving order at the same price;
 - ii. order types designed not to remove liquidity (e.g., post-only orders), including what occurs when such order is marketable against trading interest on the NMS Stock ATS when received;
 - iii. order types that adjust their price as changes to the order book occur (e.g., price sliding orders or pegged orders) or have a discretionary range, including an order's rank and price upon order entry and whether such prices or rank may change based on the NBBO or other market conditions when using such order type; when the order type is executable and at what price the execution would occur; whether the price at which the order type can be executed ever changes; and if the order type can operate in different ways, the default operation of the order type;
 - iv. whether an order type is eligible for routing to other Trading Centers;
 - v. the time-in-force instructions that can be used or not used with each order type;
 - vi. the circumstances under which order types may be combined with another order type, modified, replaced, canceled, rejected, or removed from the NMS Stock ATS; and
 - vii. the availability of order types across all forms of connectivity to the NMS Stock ATS and differences, if any, in the availability of an order type across those forms of connectivity.

For both the Main and Conditional Sessions, MatchIt accepts Peg orders and Immediate or Cancel ("IOC") orders. Peg orders may cross with contra-side Peg orders or with IOC orders. IOC orders may only cross with contra-side Peg orders. These order types may be entered with other instructions that will be used by the matching algorithm to determine whether and how they will interact with other orders.

Priority in the MatchIt Main Session for all order types is price, then time. If a Subscriber modifies the terms of a previously transmitted order, the order will receive a new order time stamp for matching purposes (i.e. the order will lose queue spot). The only exception is a reduction in order quantity which, absent any other changes to the terms of the order, will not update the order time stamp for matching purposes.

Priority in the MatchIt Conditional Session for all order types is price, then size, then time. If the algorithm modifies the terms of a previously transmitted order, the order will receive a new order time stamp for matching purposes (i.e., the order will lose queue spot). The only exception is a

reduction in order quantity which, absent any other changes to the terms of the order, will not update the order time stamp for matching purposes.

The following instructions are available for orders entered in both the Main Session and the Conditional Session. The instructions placed on orders will affect whether an order is eligible to be executed against contra-side orders.

(1) Peg Orders: Peg orders remain open until executed, canceled by the Subscriber or until the end of the daily matching session. Peg orders can be designated with the following execution instruction:

(i) Market: A Market instruction designates that the order can pay the full spread. For example, a buy order can be executed up to the national best offer and a sell order can be executed down to the national best bid.

(ii) Mid-Point: A Mid-Point instruction designates that an order can pay up to the mid-point between the national best bid and national best offer (“NBBO”).

(iii) Primary: A Primary instruction designates that the order can only be executed at the national best bid in the case of a buy order and the national best offer in the case of a sell order.

(iv.) Limit Price: A Limit Price instruction specifies a price above which a buy order and below which a sell order that the order will not be eligible for execution.

(2) IOC Orders: IOC orders will either execute if an eligible contra side order exists against which the order can be executed or if not the order is canceled. IOC orders can also include a Market, Mid-Point, Primary, or Limit Price instruction.

Other available Instructions and Designations for the Main and Conditional Sessions: The following instructions may be applied to the above order types unless otherwise indicated. These instructions may be implemented by transmitting specified values on the order or by requesting configurations that will apply particular instructions after receipt of the order:

- (i) **Minimum Execution Quantity (“MEQ”)**: An MEQ instruction specifies the minimum number of shares that must be available for a contra side order to be eligible for execution.
- (ii) **Locked Market**: A Locked Market instruction specifies that an order is not eligible for execution during locked markets. IOC orders entered with a Locked Market instruction will be rejected if the NBBO is locked. Peg orders will be accepted but ineligible for execution until the NBBO unlocks.
- (iii) **Peg Order Add-Only Liquidity Instruction (“Add Only”)**: An Add-Only instruction specifies that the order is only eligible for execution when it adds liquidity to MatchIt upon entry. Peg orders that would remove liquidity from MatchIt will be accepted by MatchIt and remain open but ineligible for execution until such a time as the order adds liquidity to MatchIt. Contra-side Peg orders on the book at the time a Peg order with an Add Only instruction is entered will not interact with the Peg Add Only order.
- (iv) **Soft Dollar Instruction**: A Soft Dollar instruction will only allow riskless principal or agency crossing. To the extent that an order with a Soft Dollar instruction interacts with an order submitted by VCMM, MatchIt will pass information on the execution

message so that the market maker's systems transact with its underlying client according to FINRA's definition of "riskless principal," i.e., at the same price, as the execution received in MatchIt.

- (v) **Virtu Principal Opt Out:** VAL and VAL Affiliates may submit instructions on orders that prevent interactions with Virtu principal orders, as described in Part II, item 3(a). This instruction is not available to Direct Subscribers. ~~This instruction will not prevent interactions with agency, riskless principal capacity orders, or other principal orders related to the facilitation of client order flow. This order instruction will also not prevent interaction with principal orders submitted by VAL traders who utilize VET algorithms.~~
- (vi) **MatchIt Subscriber Profiles and Limits on Interaction:** This instruction specifies the types of counterparties that an order may interact with based on the counterparty's Liquidity Profile. MatchIt uses quantitative metrics to create one or more Liquidity Profiles for each MatchIt Subscriber. The metrics include execution performance relative to the market over different time horizons when removing liquidity from MatchIt. MatchIt makes discretionary decisions in assigning a Liquidity Profile to a new or previously uncategorized Subscribers. MatchIt will inform Subscribers about their own profile information upon request.
- (vii) **Self-Match Prevention:** Subscribers may provide instructions that will prevent orders from crossing if the resulting cross may result in a transaction with no change in beneficial ownership.

Available Instructions and Designations for the Conditional Session Only: In addition to the instructions above, the following instructions may be placed on orders entered into the Conditional Session:

- (i) **Conditional Indicator:** Peg orders entered into the Conditional Session are by default designated as Conditional Orders. Conditional Orders are not firm and must respond affirmatively to an electronic message ("an invitation to Firm-Up") from the MatchIt Conditional Session by transmitting a Firm-Up Response Order to be eligible to be executed against contra-side orders.
- (ii) **Firm-Up Response Order:** These orders are entered as IOC orders in response to invitations from the MatchIt Conditional Session and will carry instructions, including an Invitation ID and response size, that cannot be greater than the size specified in the invitation, which will allow for the order to be executed if eligible contra-side interest remains on the book upon receipt.
- (iii) **Response Time:** This instruction limits the time period that any contra side Conditional Orders have to respond to an invitation to Firm-Up with a Firm-Up Response Order. When this instruction is present on an IOC order, the time period begins when MatchIt receives the IOC order. When this instruction is present on a Conditional Order, the time period begins when MatchIt receives a contra side IOC order or the last Conditional Order in a potential match. Firm-Up Response Orders received after the expiration of the Response Time will not be eligible for execution and will be cancelled by MatchIt.
- (iii) **Price Offset:** This instruction may be placed on Peg-Market and Peg Primary Conditional Orders and IOC Orders. The Price Offset must be expressed in positive

or negative increments of \$0.01 for symbols priced above \$1.00 and positive or negative increments of \$0.0001 for symbols under \$1.00. The offset increases or decreases the price an order can pay in relation to the NBBO.

- (iv) **In-Bound Retail Designation:** VAL receives orders from other broker-dealers for execution by its market making business ("Retail Orders"). VAL may transmit an order to the Conditional Session that represents a Retail Order and will designate the order with an In-Bound Retail designation ("In-Bound Retail Orders") if the order is generated prior to exposing the retail interest to VAL's market making algorithms. Contra-side orders must be designated as eligible to interact with In-Bound Retail Orders. VAL exercises discretion with regard to whether to route In-Bound Retail orders to the Conditional Session and which contra-side orders are eligible to interact with In-Bound Retail Orders.
- (v) **In-Bound Retail Eligible:** VET may transmit algorithmic orders to the Conditional Session. VAL or a VAL Affiliate may transmit orders with a designation that specifies that the algorithmic order is eligible to interact with orders designated as In-Bound Retail Orders. VAL's decision to allow an order to be designated as In-Bound Retail Eligible will be entirely discretionary and determined by subjective criteria such as the breadth of the client relationship, commission rates, or other factors
- (vi) **In-Bound Retail Only:** This designation specifies that the algorithmic order is eligible to only interact with orders designated as In-Bound Retail Orders.

Item 14: Counter-Party Selection

- a. Can orders or trading interest be designated to interact or not interact with certain orders or trading interest in the NMS Stock ATS (e.g., designated to execute against a specific Subscriber's orders or trading interest or prevent a Subscriber's order from executing against itself)?

☒ ☐ Yes

☐ ☐ No

If yes, explain the counter-party selection procedures, including how counter-parties can be selected, and whether the designations affect the interaction and priority of trading interest in the ATS.

Virtu Principal Opt Out: VAL and VAL Affiliates may submit instructions on orders that prevent interactions with Virtu principal orders, as described in Part II, Item 3(a). This instruction is not available to Direct Subscribers. ~~This instruction will not prevent interactions with agency, riskless principal capacity orders, or other principal orders related to the facilitation of client order flow. VET provides clients with access to algorithms that allow clients to access liquidity. See Part II, Item 1 for a description of VET. VAL's trading desks also use these algorithms and transmit principal orders in connection with their facilitation of client orders for VAL's own account. These principal orders are not subject to the Virtu Principal Opt Out instruction.~~ See Part III, Item 7 which lists order instructions including this instruction.

MatchIt Liquidity Profile Interaction: All Direct Subscribers have the option to block interaction against specific Liquidity Profiles, as described in Part III, Item 13. VAL programs its algorithms to use blocking when analysis suggests it may improve execution outcomes. VAL implements the logic of the algorithms such that decisions are made on specific child orders in specific circumstances.

Indirect Subscribers cannot make decisions to block based on Liquidity Profiles. MatchIt will prevent liquidity removing orders from matching with liquidity adding orders from counterparties falling into the specified liquidity profiles when Subscribers place the blocking instruction on their liquidity adding orders. Subscribers can send instructions designating which Liquidity Profiles to interact with on an order by order basis via FIX tag. These Profiles are only created for the Main Session and only effect counterparty interaction in the Main Session. See Part III, Item 7 which lists order instructions including this instruction.

Self-Match Prevention: Direct Subscribers may provide instructions that will prevent order from crossing if the resulting cross may result in a transaction with no change in beneficial ownership.

Other Order Attributes: Direct Subscribers can place other attributes on orders that could limit an order's ability to interact with certain contra side interest. These additional attributes include: Minimum Execution Quantity, Do Not Execute In A Locked Market, and Add Only.