

Item 11: Trading Services, Facilities and Rules

- a. Provide a summary of the structure of the NMS Stock ATS marketplace (e.g., crossing system, auction market, limit order matching book) and explain the means and facilities for bringing together the orders of multiple buyers and sellers on the NMS Stock ATS.

Crossfinder is a non-displayed crossing system available to CSSU Direct and Indirect Subscribers, which may include both external clients and internal trading desks. Crossfinder accepts orders in National Market System (“NMS”) stocks as defined in Regulation NMS. Crossfinder is a fully integrated component of the AES trading platform. External subscribers include buy-side firms (mutual funds, institutional asset managers, hedge funds, etc.) and sell-side firms (broker-dealers who focus on institutional trading, retail-originated orders, market-making, etc.). Subscribers are assigned one or more unique system IDs for their order flow(s). Crossfinder treats each system ID as a “Participant.”

- b. Are the means and facilities required to be identified in Item 11(a) the same for all Subscribers and the Broker-Dealer Operator?

Yes ☒ No ☐

If no, identify and explain any differences.

- c. Explain the established, non-discretionary rules and procedures of the NMS Stock ATS, including order interaction rules for the priority, pricing methodologies, allocation, matching, and execution of orders and trading interest, and other procedures governing trading, such as price improvement functionality, price protection mechanisms, short sales, locked-crossed markets, the handling of execution errors, and the time-stamping of orders and executions.

**Orders in the Standard Book**

When Crossfinder receives a new order event or a market data change event in a particular security, Crossfinder evaluates whether a match can be run based on the current state of that security. Assuming the security is tradeable (see below for requirements which must be satisfied before a security can trade), Crossfinder ranks the orders in the Standard Book based on price/time priority (pegged orders that also have a limit price will be priced at the less aggressive of the two prices and any orders that are priced more aggressively than the current NBBO will be priced at the far touch). Crossfinder then begins attempting to match buy and sell orders starting from highest priority. Note that if an order in the Standard Book allows interaction with Conditional Orders, interaction with Conditional Orders will also be evaluated as part of the matching process and priority may operate slightly differently (see “Orders in the Conditional Process” in Part III Item 7).

Optional Participant Configurations: A Participant has the option to request the following configurations for its order flow generally (rather than on an order-by-order basis):

- Opt-out of interacting with Credit Suisse principal orders
- Opt-in to Volatility Spread Protection (See “Anti-Gaming”)
- Opt-in to round-lot-only trading (*may also be configured on an order-by-order basis*)
- Opt-out of self-trade prevention
- Opt-in to Maximum Liquidity IOC. This configuration allows a Participant to opt-in its IOCs to trade with the entire pool, subject to the interaction preferences of the potential

counterparty (see “Order Interaction Rules” in Part III Item 14). This is not applicable to the “Conditional Order Process” described in Part III Item 9

- Opt-out of interacting with retail-originated flow
- Opt-in to interacting with Conditional Orders (*may also be configured on an order-by-order basis*)
- Opt-in to interacting with Conditional Orders that are greater than or equal to a specified minimum order size (*applies to Eligible Firm Orders as defined in the “Conditional Process” in Part III Item 9; may also be configured on an order-by-order basis*)
- Certain order interaction preferences (See “Order Interaction Rules” Part III Item 14)

### **Anti-Gaming**

Crossfinder employs various anti-gaming measures, for example:

- (1) To reduce the potential for “latency arbitrage,” Crossfinder determines the NBBO through market data sourced directly from the exchanges, as described in Part III Item 23, instead of the SIP.
- (2) Crossfinder’s matching engine has a built-in, real-time mechanism designed to prevent order matching if the bid/ask spread of a security significantly differs from its historical norm. Specifically, Crossfinder loads values for minimum and maximum expected spreads in each traded symbol for fixed intervals throughout the trading day. For orders in the Standard Order Book and Conditional Orders, Crossfinder will not execute the order if the current NBBO is narrower or wider than these expected spreads.
- (3) “Volatility Spread Protection”: During periods when market volatility is high, pricing discrepancies may increase between direct data feeds and the SIP. Crossfinder allows Participants to elect to prevent executions when such pricing discrepancies exist.

### **Crossing Scenario Examples** (not applicable to Conditional, CloseX or VWAPX Orders)

- The examples in the attached supplement for this Item illustrate Crossfinder’s order crossing process and apply to both pegged and non-pegged orders.
- The examples assume that the interaction settings and order instructions for the buyer and seller would permit a trade to occur, and that the resting buy order and incoming sell order have priority.
- All executions are bound by the NBBO.
- Crossfinder provides 100% of price overlap on the execution to the resting orders, unless one of the orders is Retail, then 80% of the overlap goes to the non-Retail order and 20% goes to the Retail order.

[This section is attached as a separate supplemental response in the EDGAR filing.]

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These examples are “stand alone” and assume no other orders are present.

Assume the NBBO is 10.09 x 10.10

- Midpoint = 10.095
- Resting Buy Order: Near Touch = 10.09 Far Touch = 10.10
- Incoming Sell Order: Near Touch = 10.10 Far Touch = 10.09

	<b>Resting Buy Order* (non-Retail)</b>	<b>Incoming Sell Order*</b>	<b>Execution Price</b>
1.	Midpoint	Midpoint	10.095
2.	Midpoint	Far Touch (non-Retail) Far Touch (Retail) *	10.09 10.091 (80% split of 10.09 x 10.095)
3.	Far Touch	Midpoint (non-Retail) Midpoint (Retail) *	10.095 10.096 (80% split of 10.095 x 10.10)
4.	Far Touch	Far Touch (non-Retail) Far Touch (Retail) *	10.09 10.092 (80% split of 10.09 x 10.10)
5.	Far Touch	Near Touch	10.10
6.	Near Touch	Far Touch	10.09

\* These examples illustrate resting buy orders versus all incoming sell orders. Reverse logic applies to resting sell orders versus all incoming buy orders.

\* Only Participants in the "Retail" Client Type that are categorized as "Natural" will be eligible to receive the price overlap described in this example. All other orders are priced as per the non-Retail examples above. Please refer to the "Classification of Crossfinder Participants" as described in Part III Item 13 for more information.

### **Conditional Orders**

The Conditional auction is run in tandem with the Standard Order Book auction described above. For details of the parameters that control the matching of Conditional Orders, see Part III Item 9.

### **Various Federal Securities Requirements for Orders in the Standard Book and Conditional Process**

Crossfinder is designed to operate in compliance with the requirements of Regulation SHO when accepting and/or executing orders in the Standard Book and Conditional Process. In accordance with Rule 201 of Regulation SHO, once a circuit breaker has been triggered, the short sale price test restriction will apply to short sale orders in that security for the remainder of the day and the following day, unless an exemption applies. Crossfinder accepts orders marked as "short exempt" from broker-dealer Subscribers.

Crossfinder will not execute orders in the Standard Book or Conditional Process in a locked or crossed market environment.

Similarly, Crossfinder will only cross orders in the Standard Book or Conditional Process if Limit Up/Limit Down ("LULD") bands are being disseminated and the proposed crossing price is within the LULD bands. Crossfinder will not execute orders in the Standard Book or Conditional Process

in a security subject to a LULD trading pause or regulatory halt. Pursuant to applicable rules, Crossfinder will only resume crossing once trading has commenced on the primary listing exchange and LULD price bands are available.

### **Closing Auction (CloseX)**

Crossfinder accepts orders where the execution for each security will occur at a single point in time at that security's official closing price on its primary listing exchange ("CloseX Orders"). CSSU will accept CloseX Orders in securities with a five-day average closing volume greater than a pre-configured value (which will be no less than 10,000 shares). Crossfinder accepts CloseX Orders for eligible securities if entered at least two minutes prior to the official market-on-close cutoff time of the security's primary listing exchange (for each applicable security, the "CloseX Cutoff") and will reject any new CloseX Order received after the CloseX Cutoff of the applicable security. A match is run at the time of each applicable security's CloseX Cutoff using size/time priority, and Participants are notified immediately of any unmatched interest by receiving an unsolicited cancellation if no shares are matched or a restatement message if there is a partial match. Crossfinder sends fill messages once the official closing price is known or disseminated for an eligible security. In the event of a technical problem on a security's primary listing exchange, Crossfinder follows that exchange's procedures/instructions for determining the official closing price.

The following order attributes govern:

- CloseX Orders must be Resident Orders.
- CloseX Orders must be Market Orders (orders with a limit price will be rejected).
- CloseX Orders must be greater than or equal to one round lot in a particular security.
- CloseX Orders with the following parameters will be rejected: Minimum Quantity, Round Lot, and Conditional Order.
- CloseX Orders marked as short sale orders will be rejected.
- Only the following Participant configurations will be honored on CloseX Orders:
  - o Opt-out of interacting with CSSU principal orders
  - o Opt-out of self-trade prevention

CloseX Orders and executions are excluded from the Crossfinder monthly scoring process as described in "Scoring Methodology" in Part III Item 13. Crossfinder "Order Interaction Rules" as described in Part III Item 14 do not apply to CloseX Orders.

### **Various Federal Securities Requirements for CloseX Orders**

Crossfinder CloseX rejects short sell and short exempt orders. As CloseX Orders are executed after market close at the subject security's official closing price, Crossfinder is not restricted by LULD bands or the status of the NBBO at the point in time which a CloseX execution occurs. Crossfinder will not execute CloseX Orders in a security which is subject to a regulatory halt.

### **Volume Weighted Average Price Cross (VWAPX)**

#### ***Terminology in VWAPX***

- VWAPX Session: Entire time interval where VWAPX Orders are entered, matched, priced, and filled in one discrete matching process.
- VWAPX Order Entry Window: Short time interval (less than 5 seconds) at the beginning of a VWAPX Session during which VWAPX Orders are eligible for receipt before the matching process initiates. VWAPX Orders entered outside of this window will be rejected.

- VWAPX Pricing Period: Time interval during which the matching process completes, lasting until either the end of the VWAPX Session or an event occurs that ends the pricing period early.
- VWAPX Session Price: The price of the security's calculated VWAP price for the duration of the VWAPX Pricing Period.

Crossfinder accepts orders from Indirect Subscribers via the AES algorithmic product suite which will be filled at the conclusion of a VWAPX Session ~~(operating at predetermined time intervals with a duration of 10 minutes or less during normal market hours)~~ at the VWAPX Session Price for the duration of the VWAPX Pricing Period ("VWAPX Order"). The VWAPX Session duration is 10 minutes unless concluded earlier for the reasons described in further detail below. Crossfinder will accept VWAPX Orders in securities with trading characteristics that CSSU deems sufficient to satisfy the VWAP exception to Regulation NMS and Regulation SHO. Matching priority for VWAPX Orders is based on price/size/time. Crossfinder accepts VWAPX Orders for eligible securities during the VWAPX Order Entry Window and Subscribers are notified of any unmatched interest by receiving an unsolicited cancellation if no shares are matched or a restatement message if there is a partial match. Crossfinder sends fill messages at the conclusion of each VWAPX Session at the VWAPX Session Price during the VWAPX Pricing Period. VWAPX Orders may be cancelled during the VWAPX Pricing Period for reasons including, but not limited to:

1. By the Participant via a cancel message that originates from the Participant cancelling the AES Algorithmic order;
2. By the AES Algorithmic platform;
3. By Crossfinder if one of the Participants' matched VWAPX Orders has a limit price and the price of the security has moved during the VWAPX Pricing Period where the VWAPX Session Price would violate that limit price; or
4. By Crossfinder due to a symbol or market halt that prevents further market trading activity.

If a VWAPX Order is cancelled, it may receive a partial fill at the prevailing VWAPX Session Price that is pro-rated based on when it was cancelled during the VWAPX Pricing Period. If the cancellation happens in a short time interval after the beginning of the VWAPX Pricing Period or the VWAPX Pricing Period does not have a minimum threshold of market prints in the security, the VWAPX Order will not receive a partial fill. In order for a VWAPX Session to print a transaction, there be at least 3 trades printed on the consolidated tape after the order is matched during the specific VWAPX Session and at least 1 minute passed in the specific VWAPX Session. If both requirements are not met, then the firm up process does not occur and the match is cancelled.

The following order attributes govern:

- VWAPX Orders are only accepted from Indirect Subscribers accessing Crossfinder via the AES algorithmic product suite.
- VWAPX Orders must be Resident Orders.
- VWAPX Orders with the following parameters are rejected: Minimum Quantity, Round Lot, and Conditional Order.
- VWAPX Orders marked as short sale orders are not eligible to interact with CSSU principal orders.
- Only the following Participant Configurations are honored on VWAPX Orders:
  - Opt-out of interacting with CSSU principal orders
  - Opt-out of self-trade prevention

VWAPX Orders and executions are excluded from the Crossfinder monthly scoring process as described in “Scoring Methodology” in Part III Item 13. Crossfinder “Order Interaction Rules” as described in Part III Item 14 will not apply to VWAPX Orders.

#### **Various Federal Securities Requirements for VWAPX Orders**

Crossfinder will accept VWAPX Orders in securities with trading characteristics which CSSU deems sufficient to satisfy the VWAP exception to Regulation NMS and Regulation SHO. As VWAP Orders are executed at a price equal to the security’s calculated VWAP price for the duration of a VWAP Session, Crossfinder is not restricted by LULD bands or the status of the NBBO at the point in time which a VWAPX Order execution occurs. Crossfinder will not execute VWAPX Orders in a security which is subject to a regulatory halt.

#### **Crossfinder Error Policy and Reporting Time Stamps**

CSSU handles execution errors occurring within Crossfinder in accordance with the firm’s Clearly Erroneous Policy. A Clearly Erroneous Trade is defined as an execution at a price, for a quantity of shares, or with a symbol, that is substantially inconsistent with the current trading pattern of the issue. In the unlikely event of a bad market data due or in unusual circumstances including periods of extreme market volatility, sustained illiquidity, or widespread system issues, trades executed on Crossfinder may be subject to review under the Clearly Erroneous Policy. The use of Crossfinder by a Participant constitutes acceptance of CSSU’s right to break any trade, or modify the terms of any trade. CSSU may, at the request of a Subscriber or on its own initiative, review any trade matched on Crossfinder if the trade is substantially inconsistent with the current trading pattern of the security. When CSSU initiates a trade review, it will attempt to promptly notify all parties to the trade via e-mail and/or telephone. If a Subscriber seeks review of a trade executed on Crossfinder, the Subscriber should notify CSSU in writing within thirty (30) minutes of execution. CSSU will make a final determination generally within one hour or as promptly as reasonably practicable under the circumstances and notify all parties to the trade.

Crossfinder time stamps orders upon receipt in the ATS and executions at the time they occur in accordance with applicable FINRA Order Audit Trail System and trade reporting rules. Crossfinder determines queue position for CloseX Orders and VWAPX Orders based on new order receipt time. Crossfinder does not support order modifications.

- d. Are the established, non-discretionary rules and procedures required to be identified in Item 11(c) the same for all Subscribers and the Broker-Dealer Operator?

Yes ☐ No ☒

If no, identify and explain any differences.

VWAPX Orders are only accepted from Indirect Subscribers accessing Crossfinder via the AES algorithmic product suite.