

EXHIBIT A
SUBSCRIBERS AND ACCESS

Luminex Trading & Analytics LLC, a broker-dealer registered with the Securities and Exchange Commission ("Luminex" or the "Firm"),¹ may admit as subscribers to the alternative trading system (the "System" or the "ATS") non-broker-dealer institutions including registered and unregistered investment companies, pension funds, banks, insurance companies, registered and unregistered investment advisers and other institutional investors.

Luminex does not admit broker-dealers as subscribers.

Luminex does not admit natural persons as subscribers to the System.

There are no differences in functionality available to different classes of subscribers. The System does not categorize or establish different classes of subscribers. Certain System functionality is only available to subscribers that use the Luminex user application (the "User Interface"), although all subscribers are eligible to use the User Interface.

¹ CRD No. 171752; SEC File No. 8-69476.

EXHIBIT B TYPES OF SECURITIES

Luminex may admit to trading on the System the following security types:

- Any security reported pursuant to an effective transaction reporting plan², including those securities listed on:
 - NYSE, see https://www.nyse.com/listings_directory/stock for a complete list of securities;
 - Nasdaq, see <http://www.nasdaq.com/screening/companies-by-industry.aspx?exchange=NASDAQ> for a complete list of securities;
 - NYSE Arca, see https://www.nyse.com/listings_directory/stock for a complete list of securities;
 - NYSE MKT, see https://www.nyse.com/listings_directory/stock for a complete list of securities; and
 - BATS, see http://batstrading.com/market_data/listed_securities/ for a complete list of securities.

Luminex does not admit to trading on the System securities that are not registered pursuant to Exchange Act section 12(a).

² See Rule 600(a)(22) adopted under the Securities Exchange Act of 1934, as amended ("Exchange Act") which defines an effective transaction reporting plan as any plan, approved by the Commission, "for collecting, processing, making available or disseminating transaction reports with respect to transactions in reported securities filed with the Commission pursuant to, and meeting the requirements of this section."

**EXHIBIT C
COUNSEL**



**EXHIBIT D
CERTIFICATE OF FORMATION AND LIMITED LIABILITY COMPANY
AGREEMENT**



EXHIBIT E
OTHER RELEVANT ENTITIES

The Firm licenses a FIX engine from CameronTec Group. The FIX engine provides connectivity with subscribers' order-originating systems and transformation of FIX messages to/from internal data structures. The Firm receives market data from Activ Financial, a vendor that handles market data feeds from various market data providers. To manage market data and orders, the System utilizes kdb+ and kdb+tick database, programming and query environments from Kx Systems. The Firm licenses certain intellectual property employed in the operation of the System from National Financial Services LLC ("NFS").

While the System will be housed and operated on Luminex servers and equipment, the Firm has engaged NFS, pursuant to a services agreement that restricts NFS' use of information obtained in providing support to Luminex and provides substantial procedures to ensure security of subscriber information, to provide technology resources and personnel to manage the technology suite and implementation of systems changes.

Pursuant to a fully-disclosed clearing agreement between Luminex and NFS, NFS clears and settles all transactions executed on the System. Additionally, NFS will maintain a proprietary account on behalf of Luminex and provide Luminex order-routing and execution services. This account will be used by Luminex to effect proprietary transactions in connection with bona fide errors and similar situations. All such proprietary transactions are effected on market centers other than the System.

EXHIBIT F THE SYSTEM

Manner of Operation

Order Types. All orders entered into the System are pegged, for order matching purposes, to the midpoint of the national best bid or offer (“NBBO”) with the reference price calculation excluding (i) any manual quotations that have crossed the market and (ii) the quotations of any automated trading center with respect to which the Firm has declared self-help. A subscriber may designate an “ultimate” limit price for each order. Orders must have a time-in-force of “day.” All orders are either executed in the System or cancelled; the System does not route orders to other market centers for execution.

Order Characteristics. Subscribers must designate an “auto-execution” quantity associated with each order entered into the System (“AutoEx Quantity”). The Firm designates a minimum AutoEx Quantity (the “MinQ”).³ Additionally, a subscriber may designate an optional “negotiable” quantity associated with each order (“Negotiable Quantity”). There is no minimum or maximum Negotiable Quantity. A “Negotiable Order” is an order that includes a Negotiable Quantity. A “Firm Order” is an order that does not include a Negotiable Quantity.⁴ An order’s total size (the sum of its AutoEx Quantity and Negotiable Quantity) at any given time is its “Top Quantity.” Subscribers may specify a minimum acceptable quantity (“MAQ”) on an order-by-order basis.⁵ MAQ specifies the minimum AutoEx Quantity with which a subscriber will interact and does not allow for the aggregation of contra-side orders to satisfy an order’s MAQ requirement.⁶ An order’s MAQ cannot exceed the order’s AutoEx Quantity. All unexecuted orders may be cancelled prior to matching (as discussed below) by timely submission to the System of cancellation instructions.

Order Priority. The System prioritizes orders based on the following factors, in the following order: (1) AutoEx Quantity, (2) Top Quantity and (3) time of order entry.

Order Interaction. Where two orders have overlapping limit prices,⁷ the orders will match.⁸ In the event both orders are Firm Orders, or where only one order is a Negotiable Order and the contra-side’s AutoEx Quantity is either equal to or smaller than the Negotiable Order’s AutoEx Quantity, the orders will execute at the midpoint of the NBBO at the time of the match, with the execution size being the smaller of the two orders’ AutoEx Quantities (“Auto Execution”).

³MinQ is 5,000 shares.

⁴ *I.e.* Negotiable Quantity is set at “0.”

⁵ A MAQ must be greater than or equal to the MinQ.

⁶ For instance, an order with a MAQ of 30,000 shares would not interact with three 10,000 share Firm Orders.

⁷ An order’s limit price is either (a) the order’s designated ultimate limit price or (b) where the subscriber has not designated an ultimate limit price, the midpoint of the NBBO.

⁸ This assumes that the orders are eligible to match given their terms, including any relevant MAQ.

Additionally, eligible orders that match within 30 seconds of the close of trading⁹ will be subject to Auto Execution.¹⁰

In the absence of an Auto Execution, orders enter negotiation after an initial match between the AutoEx Quantities of the orders. Where both orders are Negotiable Orders, or where only one order is a Negotiable Order and the contra-side's AutoEx Quantity is larger than the Negotiable Order's AutoEx Quantity, the System will send a request to one¹¹ or both¹² subscriber(s) to size-up (the "Size-Up Request"). The subscriber(s) will then be given 20 seconds in which to determine whether, and for what quantity, to size-up.¹³ An order's "Size-Up Quantity" equals that order's AutoEx Quantity and the number of shares, if any, of the order's Negotiable Quantity that the subscriber elects to make available for execution in response to a Size-Up Request. Once submitted, a Size-Up Quantity cannot be modified or canceled. During the "negotiation" period, the entire Top Quantity of each order will be "locked" such that neither order may match with another order.¹⁴ Additionally, neither party may cancel its order once the initial match has occurred and the parties are in negotiation.¹⁵ Execution size is determined upon the earlier of (a) the last required subscriber's election to size-up or (b) 20 seconds from the time of the initial match (the "Negotiation Period"). The size of the execution will be (1) in the event only one subscriber was asked to size-up, the lesser of that order's Size-Up Quantity and the AutoEx Quantity of the contra-side order and (2) in the event both subscribers are asked to size-up, the smaller Size-Up Quantity elected.¹⁶ The price associated with the execution will be based on a weighted average of the midpoints of the NBBO¹⁷ observed each second of the Negotiation Period, starting at the time of the initial match, plus the two seconds immediately

⁹ System close is noted in the *Hours of Operation* section.

¹⁰ For instance, where two Negotiable Orders that would otherwise enter a negotiation match at 3:59:45, the orders will immediately execute at the midpoint of the NBBO for smaller of the two orders' AutoEx Quantities. Order eligibility instructions (i.e. Firm Order X is ineligible to interact with any Negotiable Order) will continue to apply.

¹¹ A *single* Size-Up Request will be sent where the AutoEx Quantity of an order is equal to or greater than the Top Quantity of the contra-order. A Firm Order will never be sent a Size-Up Request. For example, assume Subscriber A has entered a Firm Order for 20,000 shares, and that Subscriber B then enters an order with an AutoEx Quantity of 10,000 shares and a Negotiable Quantity of 50,000 shares that matches with Subscriber A's Firm Order. Here, only Subscriber B will be sent a Size-Up Request. Further, if Subscriber A's order was instead a Negotiable Order with an AutoEx Quantity of 50,000 shares and a Negotiable Quantity of 100,000 shares, Subscriber A would again not be sent a Size-Up Request if it matched with Subscriber B's Negotiable Order.

¹² A Size-Up Request will be sent to *both* parties where both orders to an initial match are Negotiable Orders and the Top Quantity of each order exceeds the AutoEx Quantity of the other order. For example, where both orders have AutoEx Quantities of 10,000 shares or more and Negotiable Quantities of 20,000 shares or more, both subscribers will be sent Size-Up Requests.

¹³ Subscribers will be given the option to size-up to their Top Quantity, regardless of the contra-side's Top Quantity.

¹⁴ Subscribers may configure their profiles such that they receive alerts (via user-interface or FIX) when their orders are locked for negotiation where only the counterparty is asked to size-up instruction.

¹⁵ Attempts to cancel an order during the Negotiation Period will be queued and processed after the completion of negotiation, other than a cancel/replace that results from an election to size-up.

¹⁶ Failure to respond to a Size-Up Request will be interpreted as choosing a size-up quantity equal to the order's AutoEx Quantity.

¹⁷ Based on the Securities Information Processor ("SIP") feed for such security.

thereafter, where each midpoint price receives half the weight of the prior midpoint price.¹⁸ Execution price will be rounded arithmetically to the nearest half-penny, subject to any constraints associated with an order's terms and conditions.¹⁹ In the event the calculated execution price is worse than a subscriber's ultimate limit price (the "Exceeded Limit Price"),²⁰ the match will be limited to the lesser of the two orders' AutoEx Quantities²¹ at the Exceeded Limit Price.

Post Execution Order Handling. If an order receives at least one execution during a pass through the order book²² the order's Top Quantity will be decremented by the aggregate size of the execution(s) received. Subscribers must elect whether to decrement the execution quantity from the order's Negotiable Quantity²³ or AutoEx Quantity.²⁴ An order is canceled back to the subscriber in the event its AutoEx Quantity is decremented below the MinQ or the order's MAQ. Post-execution order handling elections are made at the trader ID or subscriber-level.

A subscriber must also elect, at the trader ID or subscriber-level, how its orders will be returned to the order book following an execution(s) ("Leaves Handling").²⁵ Subscribers may elect to

¹⁸ For example, the midpoint at the time of match will receive twice the weight of the midpoint of the following second.

¹⁹ Where the "pre-rounded" execution price is less than \$1.00, executions may occur out to four (4) decimal places (i.e. \$.0001).

²⁰ I.e. higher than the buy order's limit price or lower than the sell order's limit price.

²¹ Regardless of either party's Size-Up Quantity.

²² A "pass through the book" is completed upon the earlier of (i) an order exhausting all available Auto Executions, (ii) an order entering a negotiation or (iii) an order's AutoEx Quantity being reduced below the security's MinQ or MAQ (whichever is greater). For example, assume that the order book has the following resting buy orders: a 25,000 share Firm Order; a 15,000 share Firm Order; a 10,000 share Firm Order; and a Negotiable Order with a 10,000 share AutoEx Quantity and a 50,000 share Negotiable Quantity.

Assume a subscriber then enters a sell order with an AutoEx Quantity of 50,000 shares and a Negotiable Quantity of 50,000 shares. The sell order would: (1) immediately execute against the 25,000 share Firm Order (leaving the seller with an AutoEx Quantity of 25,000 and a Top Quantity of 75,000 shares); (2) subsequently execute against the 15,000 share Firm Order (leaving the seller with an AutoEx Quantity of 10,000 and a Top Quantity of 60,000 shares); and (3) enter a preliminary match with the Negotiable Order and be invited to a negotiation.

After the negotiation, the pass through the book would be complete and the sell order would enter post execution order handling. Note that this "pass through the book" did not interact with the 10,000 share Firm Order because the 10,000 share Negotiable Order had priority ahead of it due to its higher Top Quantity.

²³ Assume an order with an AutoEx Quantity of 20,000 shares and a Negotiable Quantity of 20,000 shares performs a pass through book and receives an execution of 10,000 shares. If the subscriber had programmed this order to decrement executions from the Negotiable Quantity, the revised order characteristics following execution would be an AutoEx Quantity of 20,000 shares and a Negotiable Quantity of 10,000 shares.

²⁴ Assume an order with an AutoEx Quantity of 20,000 shares and a Negotiable Quantity of 30,000 shares performs a pass through book and receives an execution of 10,000 shares. If the subscriber had programmed this order to decrement executions from the AutoEx Quantity, the revised order characteristics following execution would be an AutoEx Quantity of 10,000 shares and a Negotiable Quantity of 30,000 shares.

²⁵ As noted above, this occurs for all orders following a "pass through" the order book that results in an execution. Additionally, an order will enter the post execution order handling in the event the order enters the negotiation

have the System (a) cancel the order back to the subscriber, (b) immediately return the order to the order book or (c) hold the order out of the order book for a subscriber-configurable period of time after which the order is automatically (without subscriber intervention) returned to the order book (“Timed Pause”).²⁶

Only Eligible Orders Matched. To the extent that any order may not, by law, rule, regulation or the terms of the order, be crossed with another order, or may not be crossed at a particular price, such orders will be ineligible for matching or the price adjusted to a permissible price. The System will apply the priorities detailed above with respect to eligible orders and prices only. In certain circumstances, orders may be ineligible to interact with certain other orders.²⁷ The System does not execute orders in crossed markets, but does execute in locked markets.

Subscribers may indicate whether (1) a Firm Order can match with a Negotiable Order, (2) a Firm Order can cause a Negotiable Order to be invited to size-up, (3) a Negotiable Order can match with a Firm Order, (4) a Negotiable Order can match with a Firm Order that is configured to not generate invitations to size-up.

Order Controls. The System will automatically prevent orders from the same subscriber from crossing unless the subscriber has elected otherwise. Additionally, subscribers may elect that their orders not interact with orders submitted by affiliated subscribers.

Subscribers may also elect that the System automatically prevent their orders from interacting with other orders due to market conditions. The System will monitor current market conditions, such as price, volume and excess return versus a correlated market index, and compare these current conditions to the conditions observed over the prior sixty (60) trading days, adjusted as needed for corporate actions and other known market events. In the event current conditions exceed certain thresholds based on trailing sixty (60) trading-day averages, the System will prevent the subscriber’s orders from matching in the order book. The System will then continue to monitor conditions and enable the subscriber’s orders to match in the order book once conditions fall within an acceptable range. Subscribers may elect to use tools that alert them, on a best-efforts basis, when an order is being prevented from matching and when it has been re-enabled for matching. Subscribers have the option to adjust the thresholds intraday on an order-by-order basis or categorically, and can elect to disable the price, volume and excess return calculations. Additionally, subscribers have an option to manually override all automatic behavior by forcing an order into an active state (which also removes any timeout or pause after execution), or by forcing an order into a paused state.

process but an execution ultimately does not occur (generally, this should only occur due to a trading halt in the underlying security).

²⁶ A subscriber that elects a Timed Pause may manually reintroduce the paused order to the order book prior to the end of the pause period. An order that is in a Timed Pause state at 4:00 p.m. will be canceled back to the subscriber.

²⁷ Whenever an Exchange Act Rule 201 “circuit breaker” is in effect, any order to sell short in the relevant security will be limited to Auto Executions, regardless of the terms of the orders. In the event an order to sell short is in a negotiation when a circuit breaker goes into effect, the negotiation will be cancelled in its entirety, with no shares executed, and both orders in the negotiation being processed in accordance with their Leaves Handling instructions.

Display. Any subscriber that is sent a Size-Up Request is notified that a contra-side order exists in the System with a Top Quantity that exceeds that subscriber's AutoEx Quantity. Additionally, where configured, a subscriber that was not sent a Size-Up Request may be alerted that an order on the contra-side of the market is electing whether to size-up against the subscriber's order.

Hours of Operation. The System accepts orders from 8:00 a.m. to 4:00 p.m. on days that the New York Stock Exchange ("NYSE") is open and observes NYSE's holiday and early close schedule. The System executes orders during regular trading hours,²⁸ with trading in individual securities commencing upon the earlier of (a) when the security's primary listing exchange has commenced trading in that security²⁹ or (b) the Firm's determination to commence trading in the security. The System ceases executing orders at 4:00 p.m. Additionally, the System may not accept orders if there are system issues or market disruptions that warrant a cessation of trading.

Procedures Governing Entry of Orders

All orders must be entered electronically. The System does not impose any firm limitations on the number of orders entered, the frequency of cancellation of orders or the submission of computer-generated or automated orders.

System Access

Subscribers access the System through several different networks including TNS, Radianz and Savvis. The System communicates via FIX protocol.

In the event the Firm determines it does not have a reliable SIP feed for the pricing of orders, the Firm will halt executions on the System until such time that it determines the System has access to a reliable SIP feed. Any open negotiations will be cancelled, but any orders residing in the System will remain open unless cancelled by the subscriber.

Execution, Reporting, Clearance and Settlement

The System electronically creates and timestamps a record of each order receipt, execution, modification and cancellation. The record indicates the security, direction, size and order type as well as the identity of the entering subscriber. When a transaction is executed by the System, the System transmits the execution information to Luminex's back-office system and notifies the parties to the trade of the execution.

Transactions submitted to and executed on the System will be trade reported by Luminex using the System's market participant identifier.

All transactions executed on the System are cleared and settled by NFS pursuant to a fully-disclosed clearing agreement between Luminex and NFS.

²⁸ As that term is defined in Exchange Act Rule 600(a)(64).

²⁹ Excluding any pre-market trading on the relevant exchange.

Subscriber Compliance

The System has no “rules” and imposes no requirements on subscribers with which they must comply (*i.e.*, the System logic is the only source of rules and cannot be violated by a subscriber).

Subscriber Manual



EXHIBIT G CAPACITY, SECURITY AND CONTINGENCY PLANNING

System Capacity. The System's capacity is the rate at which the System is able to process messages while continuing to perform all necessary functions related to the transmission of messages to the various markets without any delay due to internal processing constraints. Capacity is reflected as the ratio of incoming messages handled by the System each second to the number of matches processed by the System each second ("Capacity Ratio"). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Future capacity requirements will be determined on a quarterly basis using the average daily message volumes over the prior quarter.

System Security.

In General. The CEO or his/her designee may grant access to customer order and execution information on the System after ensuring an employee of Luminex is an employee in good standing (i.e., has undergone a background check and acknowledged the Firm's compliance manual and policies as necessary).³⁰ In addition, the CEO or his/her designee may grant access to customer order and execution information on the System to contract employees and third party vendors after ensuring each has executed the appropriate non-disclosure agreement.³¹

Access to the Luminex's proprietary information is only granted on a need-to-know basis. Luminex employees are assigned a unique individual identification number and credentials to control access to Luminex's proprietary information, provide a segregated security administration function to independently maintain and monitor access controls, provide audit trails and disable or delete users.

The System. Firm policy generally prohibits the improper or unauthorized use of confidential System data, information regarding unexecuted orders and disaggregated information regarding completed transactions. Access to the System's proprietary information is only granted on a need-to-know basis.

Luminex maintains a system of procedures to prevent the unauthorized access of confidential System data and to surveil the use of such information by Luminex personnel authorized to access such information. User interface access to the System utilizes Luminex's standard security procedures including username and password protection and authentication. The System is also kept current with the latest released patches to keep system at maximum security.

³⁰ Background checks and acknowledgements are required for employment at Luminex.

³¹ A separate non-disclosure agreement may not be required if appropriate non-disclosure provisions are contained in the vendor agreement or employment services contract.

The System receives data only from other "trusted" systems using standard FIX protocol messages.

Contingency Planning. In the event of a significant business disruption, Luminex has implemented the following contingency plans:

Data Center Facilities are in place in two locations: Savvis (NJ2) facility at Weehawken, NJ and Savvis (CH4) at 350 E Cermak Rd, Chicago, IL. To ensure continuous processing in the event of an interruption to utility services the following facilities are in place:

- redundant networks;
- uninterruptible power supply systems;
- redundant diesel generators; and
- fire detection & suppression systems.

Recovery technique is dependent upon criticality rating and application/system technology. System platform disaster recovery is tested at least annually. Data is replicated between the sites utilizing mirroring or daily backups per application requirements.

System failover capability is provided by utilizing multiple copies of its FIX Gateway (FG). All duplicate FG processes run in hot standby mode. The System performs transparent replication of pricing and order data on two separate clusters of servers within the same data center. Both primary and hot standby resources are available in both data center facilities described above. Multiple FGs eliminate communications single points of failure. When one process or database fails, the duplicate element takes over execution automatically. All System-required data are also transmitted to a separate database located in a different geographic location.

In the event the Firm's primary physical locations cannot be accessed, critical employees will be able to access ATS systems remotely using dedicated laptops.

**EXHIBIT H
CLIENT FUNDS**

None.

**EXHIBIT I
DIRECT OWNERS**



