

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

Item 1: Broker-Dealer Operator Trading Activities on the ATS

a. Are business units of the Broker-Dealer Operator permitted to enter or direct the entry of orders and trading interest (e.g., quotes, conditional orders, or indications of interest) into the NMS Stock ATS?	<input type="radio"/> Yes <input checked="" type="radio"/> No
d. Can orders and trading interest in the NMS Stock ATS be routed to a Trading Center operated or controlled by the Broker-Dealer Operator?	<input checked="" type="radio"/> Yes <input type="radio"/> No

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?	<input checked="" type="radio"/> Yes <input type="radio"/> 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	<p>FMR Sakura Holdings LLC ("FMR Sakura") owns a minority stake in Titan Parent Company, LLC ("Titan"). Luminex Trading & Analytics LLC ("Luminex" or the "Firm") is a wholly owned subsidiary of Titan and is the only operating subsidiary of Titan. Fidelity Global Brokerage Group, Inc. ("FGBG") owns a separate, smaller stake in Titan. FMR Sakura and FGBG are wholly owned subsidiaries of FMR LLC, which operates a number of businesses under the trade name Fidelity Investments ("Fidelity"). By virtue of FMR Sakura's and FGBG's stakes in Titan, both FMR Sakura and FGBG are indirect affiliates of Luminex.</p> <p>Fidelity's asset management entity - Fidelity Management & Research Company ("FMR Co.") - is a Subscriber to the Luminex ATS (the "Luminex ATS" or the "System"). In that regard, FMR Co. enters trading interest and orders and executes transactions on the</p>

MPID and list the capacity of its orders and trading interest (e.g., principal, agency, riskless principal).	System and has no special access to or privileges in the System beyond what any other Luminex ATS Subscriber can have. FMR Co. is not a broker-dealer and does not have an MPID. The orders and trading interest entered by FMR Co. into the System are in an agency capacity.
b. If yes, to Item 2(a), are the services that the NMS Stock ATS offers and provides to the Affiliates required to be identified in Item 2(a) the same for all Subscribers?	<input checked="" type="radio"/> Yes <input type="radio"/> No
c. Are there any formal or informal arrangements with an Affiliate required to be identified in Item 2(a) to provide orders or trading interest to the NMS Stock ATS (e.g., undertaking to buy or sell continuously, or to meet specified thresholds of trading or quoting activity)?	<input type="radio"/> Yes <input checked="" type="radio"/> No
d. Can orders and trading interest in the NMS Stock ATS be routed to a Trading Center operated or controlled by an Affiliate of the Broker-Dealer Operator?	<input checked="" type="radio"/> Yes <input type="radio"/> No

Item 4: Arrangements with Trading Centers

a. a. Are there any formal or informal arrangements (e.g., mutual, reciprocal, or	<input checked="" type="radio"/> Yes <input type="radio"/> No
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preferential access arrangements) between the Broker-Dealer Operator and a Trading Center to access the NMS Stock ATS services (e.g., arrangements to effect transactions or to submit, disseminate, or display orders and trading interest in the ATS)?

If yes, identify the Trading Center and the ATS services and provide a summary of the terms and conditions of the arrangement.

Luminex is the broker-dealer operator of both the Luminex ATS and the Level ATS. All Luminex ATS Subscribers have the opportunity to elect or opt in to a feature of the Luminex ATS called “LevelUp that would allow Luminex, as the broker-dealer operator, to route Luminex ATS Subscriber orders from Luminex to the Level ATS. This LevelUp order routing arrangement is not reciprocal; the Level ATS cannot route orders from its customers to the Luminex ATS. Please see Part III Item 7(a) for a description of the LevelUp service.

Luminex does not offer order routing to any other Trading Center besides the Level ATS.

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b. If yes to Item 4(a), are there any formal or informal arrangements between an Affiliate of the Broker-Dealer Operator and a Trading Center to access the NMS Stock ATS services?

x ☒ Yes ☐ No

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If yes, identify the Trading Center and ATS services and provide a summary of the terms and conditions of the arrangement.

As noted in Part II Item 4(a) and described more fully in Part III Item 7(a), Luminex ATS Subscribers can opt in to a feature called LevelUp that would allow Luminex, the broker-dealer operator, to route Luminex ATS Subscriber orders from Luminex to the Level ATS. Please see Part III Item 7(a) for a description of the LevelUp service.

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Item 5: Other Products and Services

a. Does the Broker-Dealer Operator offer Subscribers any products or services for the purpose of effecting transactions or submitting, disseminating, or displaying orders and trading interest in the NMS Stock ATS (e.g., algorithmic trading products that send orders to the ATS, order management or order execution systems, data feeds regarding orders and trading interest in, or executions occurring on, the 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.

The only such product or service that Luminex offers System Subscribers is a user interface (the "Luminex UI"). While virtually all System Subscribers use an external OMS, EMS, or order router to send orders and trading interest to the Luminex ATS, the Luminex UI is offered to all Subscribers. Subscribers can manage orders and trading interest via the Luminex UI and can also monitor executions in the Luminex ATS via the Luminex UI, even if those orders or trading interest were submitted to the Luminex ATS via an OMS, EMS, or router. While the Luminex UI is made available to all Luminex Subscribers, not all Luminex Subscribers use the Luminex UI. Orders and trading interest for the Luminex ATS cannot be entered via the Luminex UI; however, Subscribers who opt in to use the Firm's LevelUp service can route orders previously entered by the Subscriber into the Luminex ATS to the Level ATS via the Luminex UI. Please see Part III Item 7(a). ~~The, and the~~ use of the Luminex UI provides no speed advantage versus other means of order or trading interest management. Trade advertising (symbol only) from the previous trade date ("T-

1") is made available to "opt-in" Subscribers via the Luminex UI on each trade date ("T"). Please see also Part II Item 7(b). In addition, trade advertising (symbol only) from the current trade date (T) is made available to all Subscribers via the Luminex UI unless a Subscriber opts out of receiving such advertising. Subscribers may contact Luminex ATS Sales either via phone or electronically to opt out of this real-time advertising.

b. If yes to Item 5(a), are the terms and conditions of the services or products required to be identified in Item 5(a) the same for all Subscribers and the Broker-Dealer Operator?

☒ Yes ☐ No

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.

Fidelity offers a routing tool to institutional customers called Fidelity Service Bureau ("FSB"), which is operated by a non-broker-dealer Fidelity entity. Certain System Subscribers' traders, including but not limited to those of FMR Co., use FSB to route orders and trading interest to the System for handling and execution. As it does with other order entry systems, Luminex pays FSB a monthly fee for connectivity of the Subscribers and traders that use FSB to access the System. The Firm understands that FSB was not designed specifically for use with the System and can be used to reach other venues or trading destinations in addition to the System. Luminex is not a party to any agreements between Subscribers and FSB, and users of FSB are not treated any differently in the Luminex ATS than non-users of FSB. Please see Part III Item 5(c).

d. If yes to Item 5(c), are the terms and conditions of the services or products required to be identified in Item 5(c) the

☐ Yes ☒ No

same for all Subscribers and the Broker-Dealer Operator?

If no, identify and explain any differences.

Luminex is unaware of the terms and conditions of the use of FSB for any particular Subscriber. Luminex pays the Fidelity unit that provides the FSB service several types of fees on a monthly basis. One monthly fee is based on the rate the Luminex Subscriber pays to Luminex per executed share. These types of fees can vary by Subscriber and are not capped. Another monthly fee is a flat rate per Subscriber FSB connection to the System. For this fee, after the number of Subscribers reaches a certain threshold, Fidelity caps the total fee paid by Luminex at a maximum amount per month, regardless of how many additional traders use FSB. Some Subscribers add FSB costs to the commissions paid to Luminex at their discretion. Luminex does not enter orders or trading interest into the Luminex ATS, via FSB or otherwise.

ATS-N: 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

Negotiable Order and Firm Order Types - In either a Negotiable Order or Firm Order context (see below), a Subscriber must designate an "auto-execution" quantity associated with each Negotiable or Firm Order entered into the System ("AutoEx Quantity"). The minimum AutoEx Quantity is the System minimum trade size of 5,000 shares. 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 Negotiable Order's total size (the sum of its AutoEx Quantity and Negotiable Quantity) at any given time is its "Top Quantity." A "Firm Order" is any order with an AutoEx Quantity that equals the Top Quantity. For both Firm Orders and Negotiable Orders, Subscribers may specify a minimum quantity at which they are willing to trade ("MinQ") on an order-by-order basis, which must be equal or greater than 5,000 shares. For Firm and Negotiable Orders, MinQ 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 MinQ requirement. For example, an order with a MinQ of 21,000 shares would not interact with three 7,000 share Firm Orders. An order's MinQ 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

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. conditions, including any price conditions (e.g., how price conditions affect the rank and price at which it can be executed; conditions on the display or non-display of an order; or conditions on executability and routability);

iii. 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;

iv. 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

instructions.

Conditionals - A "Conditional" is a representation of potential trading interest by a Subscriber in a particular security. Upon a match in the System, an invitation is sent to a Subscriber that entered a Conditional subject to a match for that Subscriber to "firm-up" the Conditional with a specific share amount at which the Subscriber would be willing to trade. Subscribers who enter Conditionals are presented with the opportunity to trade but not an obligation to do so, as such Subscribers may either actively decline the invitation or allow the invitation to "time out" following the end of the Negotiation Period as defined herein. The minimum trade size for Conditionals is also 5,000 shares, and there is no maximum quantity, although each order is bound by applicable pre-trade Market Access limits established by Luminex pursuant to SEC Rule 15c3-5 (the "Market Access Rule"). Such limits in this specific case include overall share size limits in relation to a security's average daily volume, total order notional size limits (meaning, the share volume of the order multiplied by the current price of the security), and the notional size of the order in relation to the Subscriber's overall gross notional limit set by the Firm for each Subscriber. There is no AutoEx for Conditionals, nor is there a Negotiable Quantity. Subscribers that enter a Conditional may also enter a MinQ, which specifies the minimum size of a contra-side order with which the Conditional would be willing to potentially trade. The MinQ for Conditionals must be greater than 5,000 shares. A Subscriber who enters a Conditional with a MinQ will not be presented with invitations to trade against contra-side orders with a Top Quantity that is less than the MinQ of the Conditional. If a Subscriber enters a MinQ on a Conditional and elects to firm-up (as explained below), the Subscriber must firm-up for at least the MinQ amount. Potential information leakage could occur if a Subscriber enters a Conditional with a very large MinQ to probe whether there is an equally large order or Conditional on the contra side to potentially match against. If that large Conditional matches a similarly sized contra side order or Conditional, the Subscriber entering the Conditional (as described below) could decline a match and thus learn of large trading interest by another Subscriber without having had to effect a transaction in the System. In order to reasonably prevent such information leakage, the System caps the maximum size for the MinQ for Negotiable and Firm Orders and Conditionals. The maximum MinQ is set at 25,000 shares. Any change to the maximum MinQ will be disclosed in writing to Subscribers in advance of such change. For a Conditional, the entire quantity entered by the Subscriber is conditional, which gives the Subscriber the option, but not the obligation, to trade following a match of eligible orders or trading interest and the receipt of an invitation to trade. As described more fully below, a Subscriber who enters a Conditional may still decline an invitation to trade even if the contra side order's Top Quantity exceeds the MinQ of the Conditional.

Subscribers entering Conditionals may use limit prices, entered either via the Subscriber's OMS, EMS or third-party router or via the Luminex UI after the Conditional has been entered by the Subscriber on the Luminex ATS. Upon a match, the System will recall the entered limit price and route that limit price with the Subscriber's firm-up (if any) to the Luminex ATS. Any limit price entered by the Subscriber via the Luminex UI cannot violate a limit that the Subscriber entered for that Conditional via its OMS, EMS, or third-party router.

Order Types - All orders or trading interest entered into the System are pegged, for order matching purposes, to the midpoint of

the order type;

- v. whether an order type is eligible for routing to other Trading Centers;
- vi. the time-in-force instructions that can be used or not used with each order type;
- vii. 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
- viii. 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.

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 a limit price for each order or Conditional. Orders and Conditionals may only have a time-in-force of Day. All orders are either executed in the System or cancelled; ~~the System does not route orders or Conditionals to other market centers for execution.~~

LevelUp - All Luminex ATS Subscribers can elect or “opt in” to a service called “LevelUp” that would allow the Subscriber to be able to direct that orders (in whole or in part) be routed by Luminex, as broker-dealer operator, from the Luminex ATS to the Level ATS. The handling of such routed orders will be governed by the rules and policies of the Level ATS once the order is entered into the Level ATS. While the Level ATS makes all of its features available to all Level ATS Subscribers, not all Level ATS features will be available to Luminex ATS Subscribers. Please see the Level ATS Form ATS-N for a full description of all Level ATS rules and policies. What follows is a description of the features and order parameters of the Level ATS that Luminex will offer to Luminex ATS Subscribers that opt in to the LevelUp feature.

Luminex will offer LevelUp participants two potential counterparty groups once the opt-in Luminex Subscriber orders reach the Level ATS: “BD/Agency Algo/Smart Order Router” order flow, or that segment as well as external market makers. Luminex Subscribers will also be able to request to interact with not interact with specific Level ATS counterparties by submitting requests in writing to the Luminex ATS Sales team. While the Level ATS accepts Day, “Good Til Time,” and “Immediate or Cancel” orders, Luminex will only support Day orders for LevelUp during the initial roll-out of the service.

Only Conditionals can be used by Luminex ATS Subscribers as part of the LevelUp functionality. Subscribers can set system parameters such that all of their Conditionals sent to Luminex would be immediately routed in full as Firm Orders (all orders sent by Luminex as broker-dealer operator to the Level ATS are Firm Orders) to the Level ATS without interacting with the Luminex ATS, be routed to the Level ATS after resting first at Luminex for a configurable time period if the order does not receive an execution on the Luminex ATS, or be routed to the Level ATS following a partial execution at the Luminex ATS. Subscribers may also select orders for routing to the Level ATS on an order-by-order basis, the parameters for which are all determined by the Subscriber on each order. This functionality involves the routing of a Firm Order to the Level ATS with certain criteria selected by the Subscriber. If the Subscriber chooses to have their Conditionals rest on the Luminex ATS before being routed by Luminex to the Level ATS, the Subscriber can set a “Level Up Wait Time,” which is the amount of time that a Conditional will rest at the Luminex ATS before a Firm order will be sent by Luminex to the Level ATS. Subscribers can also set a share amount or a quantity percentage amount of their Conditional to be routed to the Level ATS. Luminex will select the lesser of the two quantities if both are selected. Subscribers can select a minimum required quantity for executions of their orders on the Level ATS, can set a limit, select a Level ATS order type (primary peg, midpoint peg, or market peg), and a “reload after completion” time which is a configurable period of time after a Subscriber execution on the Level ATS before the system will request more shares from the Subscriber’s resting Conditional on the Luminex ATS (if any) to be routed to the Level ATS. If at least

5,000 shares remain resting at the Luminex ATS relating to an order routed to the Level ATS, Subscribers who receive a match on the resting shares at the Luminex ATS will have the ability to firm up for the total unexecuted quantities at both venues relating to that Subscriber's original Conditional. If the leaves quantity on a LevelUp order following an execution is less than the Subscriber's entered minimum quantity, the Subscriber's minimum quantity will be reduced to match the leaves quantity.

Subscribers may cancel their LevelUp orders via their OMS, EMS, or router or via the Luminex UI. Luminex would only cancel the Subscriber's order that had been routed to the Level ATS if required to do so, either because the Subscriber wishes to include the shares in a firm-up on the Luminex ATS or if the Subscriber's OMS or EMS requires it. All functionality must be requested by an Authorized Contact at the Subscriber to the Luminex ATS Sales department.

Luminex, in its capacity as a broker-dealer and the broker-dealer operator of the Luminex ATS, is the Subscriber to the Level ATS and the Luminex ATS Subscriber is not. At the Level ATS, LevelUp orders must be Firm orders and not Conditionals. LevelUp orders intended to rest first on the Luminex ATS must be for 5,000 shares or more, the Luminex ATS minimum order size. (See Part III Item 8 below). If a Subscriber opts in for this functionality, LevelUp orders intended to be routed directly through Luminex to the Level ATS can be for less than 5,000 shares and must comply with the Level order size requirements. If a Luminex ATS Subscriber receives a LevelUp-related execution in the Luminex ATS which leaves less than 5,000 shares on the Subscriber's order, Luminex can still route that order to the Level ATS even though it is for less than the Luminex ATS system minimum. Luminex ATS Subscribers interested in this "clean-up" functionality are required to elect to enable this feature and the Luminex ATS Subscriber's OMS or EMS must be configured to re-send orders or trading interest to the Luminex ATS if the quantity falls below the Luminex ATS minimum order size of 5,000 shares. In addition, so long as a LevelUp participant has a Conditional of 5,000 shares or more resting on the Luminex ATS in addition to an order routed through to the Level ATS, that Subscriber will be able to size up on a match at the Luminex ATS to the total shares represented for that Subscriber in both venues.

This LevelUp order routing arrangement is not reciprocal; the Level ATS cannot route orders from its customers to the Luminex ATS. The use or non-use of LevelUp itself by any Luminex ATS Subscriber has no impact on the order priority or execution logic within the Luminex ATS. There are certain cases where certain LevelUp activity could impact related order priority within the Luminex ATS. For example, a Luminex ATS Subscriber may, prior to Luminex sending a Firm LevelUp order, reduce the quantity of a parent Conditional with the Luminex ATS by the intended quantity of the Firm LevelUp order via cancel/replace functionality. In that case, the new "replace" Conditional on the Luminex ATS would have a new lower priority rank than the original Conditional. Similarly, if a Subscriber cancels a Firm order that had been routed by Luminex to the Level ATS and cancel/replaces the original Conditional on the Luminex ATS back to its original quantity, that new "replace" Conditional on the Luminex ATS would also have a new lower priority rank than the original Conditional. This rank adjustment occurs with cancel/replace functionality whether the Luminex ATS Subscriber uses LevelUp

or not. LevelUp-related execution reports are sent from the Level ATS back to Luminex for clearance and settlement pursuant to normal Luminex processes.

Modifications – Firm and Negotiable Orders and Conditionals may be modified while resting on the System via cancel/replace, but not during the Negotiation Period, as defined below. For Conditionals that receive a match, the System allows the Subscriber to firm up the same shares as, more shares than, or fewer shares than the original Conditional submission at the Subscriber’s option. Subscribers that use the Luminex UI can only increase the quantity up to the maximum quantity associated with the Conditional. Subscribers that do not use the Luminex UI and access the System via other means such as third-party routers are able to respond to invitations up to whatever quantity they have available in the front end that they use, regardless of the original quantity that was entered on the Conditional. The Conditional quantity may only be reduced below the System minimum of 5,000 shares if the Subscriber has opted in to the “clean-up” feature of LevelUp, as described below, but may not be reduced below 5,000 shares during the Negotiation Period. For these “opt in” Subscribers, such below-5,000 share modifications will be routed to the Level ATS for handling. For all other Subscribers, reducing the share quantity to less than the 5,000 share System minimum (or the Subscriber’s selected MinQ) will result in a rejection. In addition, if a Conditional is entered with a limit, that limit price may be modified following a match.

Order Priority - Assuming orders and trading interest are marketable, the System prioritizes orders and trading interest based on the following factors, in the following order: (1) AutoEx Quantity (for Firm and Negotiable Orders only), (2) Top Quantity and (3) time of order entry or entry of the trading interest. Orders or Conditionals that are subject to a cancel/replace lose their priority in the System, with the "replace" being treated as a new order or Conditional for prioritization purposes. The functionality for Subscribers' traders to enter Firm and Negotiable orders is enabled in all OMS/EMS or routers that are integrated with/connected to the System. The functionality for Conditionals has been made available to all Subscribers but not all Subscribers use the Conditional functionality. Please see also Part III Item 9.

b. Are the terms and conditions for each order type and attribute the same for all Subscribers and the Broker-Dealer Operator?

☒ Yes ☐ No

Item 8: Order Sizes

a. Does the NMS Stock ATS require minimum or maximum sizes for orders or trading interest?

If yes, specify any minimum or maximum order or trading interest size requirements and any related handling procedures.

b. If yes to Item 8(a), are the requirements and procedures required to be identified in Item 8(a) the same for all Subscribers and the Broker-Dealer Operator?

c. Does the NMS Stock ATS accept or execute odd-lot orders?

e. Does the NMS Stock ATS accept or execute mixed-lot orders?

☒ Yes ☐ No

The System has a minimum order and Conditional size and a minimum trade size of 5,000 shares. The System has no maximum order or Conditional size or maximum trade size. However, the maximum order, Conditional, and trade size may vary by Subscriber and may vary by security dependent upon the Market Access limits imposed by the Firm as noted in Part III Item 7(a). Similarly situated Subscribers are subject to similar limits unless a Subscriber requests more stringent limits than those imposed by the Firm.

As described in Part III Item 7(a), if a Luminex ATS Subscriber opts in to the LevelUp functionality, LevelUp orders intended to be routed directly through Luminex to the Level ATS can be for less than 5,000 shares and must comply with the Level order size requirements. If a Luminex ATS Subscriber receives a LevelUp-related execution in the Luminex ATS which leaves less than 5,000 shares on the Subscriber's order, the System can still route that order to the Level ATS even though it is for less than the Luminex ATS system minimum. Luminex ATS Subscribers interested in this "clean-up" functionality are required to elect to enable this feature and the Subscriber's OMS or EMS must be configured to re-send orders or trading interest to Luminex if the quantity falls below the Luminex ATS minimum order size of 5,000 shares. In addition, so long as a LevelUp participant has a Conditional of 5,000 shares or more resting on the Luminex ATS in addition to an order routed through to the Level ATS, that Luminex ATS Subscriber will be able to size up on a match at the Luminex ATS to the total shares represented for that Subscriber in both venues.

☐ Yes ☐ No

☐ Yes ☒ No

☒ Yes ☐ No

If yes, specify any mixed lot order requirements and related handling procedures (e.g., mixed lot treated the same as round lot).

While the System is set up by default to allow for the handling of mixed lot orders, Subscribers can elect to only execute in round lots, so long as executions are for at least the System minimum of 5,000 shares. This election is a Subscriber-level setting that applies to all of a Subscriber's traders and their executions. When there is a match of two orders pursuant to the processes described herein, the System will determine whether either side has elected to execute only in round lots. If either side has so elected, the System will take the lower common quantity (either Firm or Firm-Up/Size-Up quantity) and will round down to the nearest 100 share lot if necessary. Subscribers that have made the round lot election may continue to bid in whatever increments they choose, but the execution will be rounded down to the nearest round lot. Any Subscriber Leaves Handling instructions (meaning, instructions on how the System is to treat the unexecuted or "leaves" portion of the order) are unaffected. (Leaves Instructions can include instruction for the unexecuted portion of the order to be cancelled back to the Subscriber or that it be automatically reentered into the System as a new order or Conditional.)

f. If yes, to Item 8(e), are the requirements and procedures required to be identified in 8(e) the same for all Subscribers and the Broker-Dealer Operator?

☒ Yes ☐ No

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.

Luminex is a crossing system utilized by its Subscribers, who are large buy-side asset management institutional investors and Transition Management Brokers that trade on behalf of similar types of asset managers. Only Subscribers may enter orders or trading interest and execute orders on the System; the System does not accept orders or trading interest from broker-dealers that are not Transition Management Brokers admitted to the ATS. Subscribers may enter Firm Orders, Negotiable Orders, or Conditionals as defined in Part III Items 7 and 9, at the Subscriber's option and as permitted by the functionality of the means used by the Subscriber to enter orders or trading interest into the System. All NMS Stocks are eligible to trade in the System. Assuming orders or trading interest are marketable, the System prioritizes orders and trading interest based on the following factors, in the following order: (1) AutoEx Quantity (for Firm and Negotiable Orders only), (2) Top Quantity, and (3) time of order entry.

b. Are the means and facilities required to be identified in Item 11(a) the same

☒ Yes ☐ No

for all Subscribers and the Broker-Dealer Operator?

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.

Assuming orders or trading interest are marketable, the System prioritizes orders and trading interest based on the following factors, in the following order: (1) AutoEx Quantity (for Firm and Negotiable Orders only), (2) Top Quantity, and (3) time of order entry. There are no order type restrictions following a stoppage of trading in a security during regular trading hours.

Order Interaction - It is possible for any of the supported order or trading interest types - Firm and Negotiable Orders and Conditionals - to interact with each other, as described more fully in the attached chart. In the scenarios described in the chart, the actions of the buyer who enters a particular order or trading interest type with various characteristics are mapped against the seller who enters a particular order or trading interest type with various characteristics. The scenarios assume both sides are marketable and show what the result would be if the buyer and seller took particular actions. A helpful way to read the chart, for each scenario, is, "Assume the buyer entered an order or trading interest of this type, for this size, at this price, and matched against a seller who entered an order or trading interest of this type, for this size, and at this price. If the buyer and/or seller responded to the match in this way or these ways, here is the expected result." Where at least one side of a match is either a Conditional or a Negotiable Order, an invitation to trade is sent to that Subscriber (a "Firm-Up Request" or a "Size-Up Request," respectively). In the case of a Negotiable Order, the Subscriber is required to trade at least the Subscriber's entered AutoEx Quantity and may elect to trade some, all or none of its negotiable shares as represented in its entered Top Quantity. Note that "SSR" in the chart refers to short sale restriction. (Please see the Order Interaction during an Exchange Act Rule 201 Short Sale "Circuit Breaker" below.)

Auto Execution - Where there are two marketable orders in the same security on opposite sides, the orders will match. Firm Orders that match will execute immediately at the midpoint of the National Best Bid or Offer (NBBO) at the time of the match, with the execution size being the smaller of the two orders' AutoEx Quantities ("Auto Execution"). If a Firm Order matches with a Negotiable Order and the Firm Order's AutoEx Quantity is either equal to or less than the Negotiable Order's AutoEx Quantity, this match will also result in an Auto Execution at the smaller of the two orders' AutoEx Quantities. Firm and Negotiable Orders that match with either another Firm or Negotiable Order within six seconds of the close of trading will be subject to Auto Execution (i.e., execution for the smaller of the two orders' AutoEx Quantity). A Firm Order can match and execute against another Firm Order until 15:59:59.

Negotiation - Size-Ups and Firm-Ups - In the absence of an Auto Execution, orders can enter negotiation after matches that include either a Negotiable Order or a Conditional. Where both orders are Negotiable Orders, or where only one order is a Negotiable Order and a contra-side Firm Order's AutoEx Quantity is larger than the Negotiable Order's AutoEx Quantity, the System will send a Size-Up Request to one or both Subscriber(s) to size-up. Subscribers that enter Conditionals and receive a match are sent Firm-Up Requests. For matches that occur in the System up until 15:59:37, Subscribers that receive invitations to negotiate are given 20

seconds in which to determine whether, and for what quantity, to size-up or firm-up. The Subscriber(s) will be given the option to size-up to their Top Quantity, regardless of the contra-side's Top Quantity. A Negotiable 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. A Conditional's Firm-Up Quantity equals the number of shares, if any, of the Conditional's Top Quantity that the Subscriber elects to make available for execution in response to a Firm-Up Request. As noted, where a Conditional has a MinQ, a Subscriber may not firm-up for an amount less than the Conditional's MinQ. Upon an invitation to size-up or firm-up, a trader solely enters a share quantity and no other terms or conditions. Once submitted, a Size-Up or Firm-Up Quantity cannot be modified or cancelled. During the Negotiation Period, which is the time period that a Subscriber has to determine whether to firm-up or size-up, the Subscriber's order cannot match with another order. Additionally, neither party may cancel or modify its order once the initial match has occurred and the parties are in negotiation. Any cancellation requests will pend or queue in the System and will be processed once the negotiation has concluded. Execution size is determined upon the earlier of (a) the last required Subscriber's election to size-up or firm-up, or (b) 20 seconds from the time of the initial match (i.e., the Negotiation Period for all trades other than at the very end of the trading day). The size of the execution will be (1) in the event only one Subscriber was asked to size-up or firm-up, the lesser of that order's Size-Up or Firm-Up Quantity and the AutoEx Quantity of the contra-side order and (2) in the event both Subscribers are asked to size-up or firm-up, the smaller of the Size-Up Quantity or Firm-Up Quantity elected. The Negotiable Order's AutoEx Quantity will be used in lieu of a Size-Up Quantity if the Subscriber does not respond to the Size-Up Request. Execution price will be based on a decaying weighted average of the midpoints of the NBBO (based upon the Securities Information Processor ("SIP") feed for such security) observed each second of the Negotiation Period, starting at the time of the initial match, plus the two seconds immediately thereafter, where each midpoint price receives half the weight of the prior midpoint price (the "Derived Price"). The Derived Price will be rounded to the nearest halfpenny, subject to any constraints associated with an order's terms and conditions. In the event the Derived Price is worse than a Subscriber's limit price (the Exceeded Limit Price), the match between a Firm Order or Negotiable Order and another Firm Order or Negotiable Order will be limited to the lesser of the two orders' AutoEx Quantities at the Exceeded Limit Price. If one party to a match had entered a Conditional, or if both parties to a match had entered a Conditional, then an execution would not occur in the System if either party's limit price would be breached by the Derived Price of a transaction. See Part III Item 8(e) above for Mixed Lot Processing.

Auto Firm-Up – Subscribers have the ability to enter a quantity in the Luminex UI up to the Top Quantity of an existing Subscriber order which will instruct the System, upon a match, to automatically firm up that Subscriber's order via this Auto Firm-Up (AFU) feature. In the event of one or more partial fills (executions for less than the Top Quantity), the AFU quantity will be decremented by each execution amount until the remaining order size is less than 5,000 shares, the System minimum order size. At such time, the AFU election will be dropped or disabled. If there is an execution for the full AFU quantity, subsequent matches would operate via the standard (non-AFU) Luminex ATS rules. Orders using AFU are required to have a limit price, either entered via FIX message to the Luminex ATS or entered by the Subscriber manually via the Luminex UI.

Order Interaction during an Exchange Act Rule 201 Short Sale "Circuit Breaker" - When an Exchange declares a short sale "circuit breaker" pursuant to Exchange Act Rule 201, trading centers, with limited exceptions, are prohibited from executing short sales at a price that is equal to or below the national best bid. The "circuit breaker" restrictions generally remain in place on the day the "circuit breaker" is declared and for the entire following trading day. As noted, where both the seller and buyer have entered marketable Firm Orders and match, the System will immediately execute the transaction at the NBBO midpoint, as discussed herein. During a Rule 201 "circuit breaker," if the seller has entered a Firm Order, a Negotiable Order, or a Conditional to sell short that matches against a Negotiable Order or a Conditional, the System may execute that order if the Derived Price of the transaction following the Negotiation Period is determined to be above the national best bid, in conformance with SEC Rule 201. If the Derived Price is determined to be at or below the national best bid, there will be no execution. Similarly, in these scenarios, the System will also check the Derived Price against the seller's limit price (if any), and if the Derived Price would violate the seller's limit price, there will be no execution.

End of Session Order Interaction - The order interaction protocols described above apply until 15:59:37. Until this time, negotiations can last for up to twenty seconds, and executions occur approximately two seconds following the conclusion of the negotiation. Because the System requires approximately two seconds to effect trades following a negotiation, the System requires that all negotiations end by 15:59:57. Between 15:59:37 and 15:59:57, the System will permit Negotiation Periods of less than twenty seconds, the duration of which will be the maximum amount of time remaining in the trading day up to 15:59:57. The shortest permissible Negotiation Period during this window is three seconds. For example, if a match occurs at 15:59:40, negotiations may continue for up to seventeen seconds (i.e., the maximum amount of time remaining until 15:59:57). Similarly, if a match occurs at 15:59:50, negotiations may continue for up to seven seconds (i.e., the maximum amount of time remaining until 15:59:57). If a match occurs at 15:59:54, negotiations may continue for up to three seconds (i.e., the maximum amount of time remaining until 15:59:57). Orders may not enter into a negotiation after 15:59:54. As noted above, all Firm and Negotiable Orders matched with either a Firm or Negotiable Order during the last six seconds of trading will automatically execute at the lesser of the two orders' AutoEx Quantities. Conditionals that do not receive a match by 15:59:54 or that are received by the System after 15:59:54 cannot execute before the close of trading. The truncated Negotiation Periods near the close of trading allow Subscribers the opportunity to execute transactions that might not otherwise be possible if the System only permitted a Negotiation Period of twenty seconds. In the event of a shortened trading day, such as a holiday, the same protocols would apply during the last 23 seconds of the shortened trading day.

Multiple buyers and sellers are not permitted in the same execution, and thus allocation does not apply in this context. Luminex considers the results of its pricing calculation to be price improvement for both buyer and seller given that it is either the midpoint of the NBBO or at a price derived from a series of NBBO midpoints as described above.

Errors or Accommodations - In the event of a System error, such as an execution at a price based upon outdated or erroneous market data, Luminex would contact the Subscriber who may have been disadvantaged through the error to ask if the Subscriber

wishes to have its execution priced at the corrected price as determined by the Firm using updated market data. If the Subscriber states, either orally or in writing, that it wishes to have the corrected execution price, Luminex would adjust the price on that Subscriber's execution, assuming the money difference in the Firm's Error account. If the disadvantaged Subscriber determines and notifies the Firm orally or in writing that it does not want the erroneous execution at all, even if adjusted to the correct price, and the contra-side to the execution did not want to bust the trade, then the Firm would assume the Subscriber position resulting from error and would trade out of that position outside of the ATS by sending an order to its clearing firm for handling and execution. The Firm does not execute any principal orders in the System. The Firm also may, in limited circumstances and in its sole discretion, grant accommodations to Subscribers due to unusual execution scenarios that impact a Subscriber but are not the result of a System error. For example, a Subscriber may receive an execution in the System in a mixed lot and may prefer an execution in a round lot. In such a case, if requested by a Subscriber orally or in writing, the Firm may elect to fill the remaining shares that would create a round lot execution for the Subscriber. The Firm would price those remaining shares at the same price as the mixed lot execution in the System, and the Firm would send an order to its clearing firm for handling and execution to cover the shares needed to fill the odd lot portion of the Subscriber order. The Firm maintains separate Error and Facilitation accounts for handling these respective scenarios.

The System time stamps all phases of the order and trading interest life cycle and does so in nanoseconds.

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

Item 16: Routing

a. Can orders and trading interest in the NMS Stock ATS be routed to a destination outside the NMS Stock ATS?

~~x~~ ☐ Yes ☒ No

b. If yes to Item 16(a), must affirmative ~~x~~ Yes No

instructions from a Subscriber be obtained before its orders or trading interest can be routed from the NMS Stock ATS?

If yes, describe the affirmative instruction and explain how the affirmative instruction is obtained. If no, explain when orders from the NMS Stock ATS can be routed from the ATS (e.g., at the discretion of the broker-dealer operator).

As discussed above (See Part II Item 4 and Part III Item 7), Luminex ATS Subscribers who opt in to the Firm's LevelUp feature may have orders routed by Luminex to the Level ATS but only upon instruction by the Luminex ATS Subscriber. Luminex does not have discretion to route any Luminex ATS Subscriber order to the Level ATS.

Item 19: Fees

a. Identify and describe any fees or charges for use of the NMS Stock ATS services, including the type of fees (e.g., subscription, connectivity), the structure of the fees (e.g., fixed, volume-based, transaction-based), variables that impact the fees (e.g., types of securities traded, block orders, form of connectivity to the ATS), differentiation among types of Subscribers (e.g., broker-dealers, institutional investors, retail) and range of fees (e.g., high and low).

Luminex's base execution rate is 50 mills (\$0.005) per executed share. In rare instances, Luminex may charge a higher rate for Subscribers whose connectivity fees that Luminex pays are higher than most other Subscribers. Similarly, in rare instances, Luminex may charge a lower rate for Subscribers whose connectivity fees that Luminex pays are lower than most other Subscribers. Nearly all active Subscribers (those who regularly submit orders or trading interest to the ATS) pay the base execution rate. The lowest rate for any Subscriber is 25 mills (\$0.0025) per executed share. The highest rate for any Subscriber is 150 mills (\$0.015) per executed share. Certain Subscribers pay commissions in "basis points," ranging from a low of one (1) basis point to a high of five (5) basis points. Each basis point equates to one hundredth of one percent of the notional value of the transaction. Depending on the provider, Luminex may "pass through" certain fees that it is charged by certain service bureau routers or OMS and EMS entities. These pass-through fees are fully disclosed to the applicable Subscribers and typically range from a high of 15 mills (\$0.0015) to a low of zero mills per executed share. In certain instances, these vendors may charge Luminex more than 15 mills and thus a pass through fee charged to a Subscriber that uses that router, OMS, or EMS may exceed 15 mills. In some cases, Subscribers may elect to pay a rate higher than the base execution rate, and they can also apply additional commission as part of a Commission Sharing Arrangement ("CSA") in conformance with Section 28(e) of the Securities Exchange Act of 1934. This amount above the base commission rate to be attributed to the CSA program is determined solely by the Subscriber, pursuant to a written agreement with Luminex.

The fees paid by Luminex ATS Subscribers for orders executed via LevelUp, as described in Part III Item 7(a), will be the same that such Subscribers pay for executions on the Luminex ATS. Luminex will pay a fee of 5 mills per executed share to the Level ATS for facilitating transactions involving orders routed to it via LevelUp.

b. Identify and describe any fees or charges for use of the NMS Stock ATS services that are bundled with the Subscriber's use of non-ATS services or products offered by the Broker-Dealer Operator or its Affiliates, including a summary of the bundled services and products, the structure of the fee, variables that impact the fee, differentiation among types of Subscribers, and range of fees.

Not applicable.

c. Identify and describe any rebate or discount of fees or charges required to be identified in Items 19(a) and 19(b), including the type of rebate or discount, structure of the rebate or discount, variables that impact the rebate or discount, differentiation among types of Subscribers, and range of rebate or discount.

Not applicable.