

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?

☒ Yes ☐ No

If yes, name and describe each type of business unit of the Broker-Dealer Operator that enters or directs the entry of orders and trading interest into the ATS (e.g., NMS Stock ATS, type of trading desks, market maker, sales or client desk) and, for each business unit, provide the applicable MPID and list the capacity of its orders and trading interest (e.g., principal, agency, riskless principal).

The following business units of JPMS are able to enter or direct the entry of firm orders into a JPMS algorithmic trading strategy or JPMS' smart order routing technology (collectively, the "algorithms/SOR"). As described in Part III, Item 5, the algorithms/SOR is able to enter or direct the entry of firm orders and trading interest in the form of conditional orders (collectively, "Firm/Conditional Orders") into JPB-X (using the "JPMS" MPID). The business units may enter or direct the entry of Firm/Conditional Orders in the capacities listed below. Note, references to principal activity may include executing principally for clients on a riskless principal basis:

1. The Over-the-Counter ("OTC") Listed International Sales and Trading unit of JPMS, which trades on an agency, riskless principal, or principal basis and primarily (i) facilitates client trading, including high-touch, electronic and portfolio trading, and hedges and/or unwinds the resulting risk and (ii) acts as a market maker or block positioner in U.S. and non-U.S. equities, equity listed options, OTC options, equity swaps, exchange-traded funds, preferred stocks, credit products, and equity structured products. The OTC Listed International Sales and Trading unit includes the following trading desks:

(i) Americas Execution Services, which primarily handles domestic high touch equity orders on a principal or agency basis via coordination with the Firm's block trading desk, proprietary DMA connectivity, and/or other market access tools;

(ii) Americas Credit Indices, which trades on a principal basis in credit derivatives, fixed income, commodities, and currencies ETFs, and associated hedges and/or unwinds of the residual risk using, among others, listed equity, options, rates, and futures;

(iii) Block Liquidity Management, which books block transactions with clients on a principal or agency basis;

(iv) Central Liquidity Book, which manages firm positions, including client facilitations on a principal basis;

(v) Convertible Trading, which trades equities, futures, convertible corporate bonds and equity preferreds and convertible preferreds on a principal or agency basis

(vi) Corporate Trading, which trades equities, futures, equity listed options, equity OTC options, equity swaps, and equity structured products and facilitates open market activities for corporate clients on a principal basis;

(vii) Electronic Client Solutions Trading, which on a principal or agency basis, primarily coordinates customer access to, and the monitoring and support of, JPMS direct-to-market (including agency-only direct to JPB-X), and algorithmic/SOR trading products;

(viii) Equity Finance Trading, which finances client and counterparty equity positions through swap transactions on a principal basis;

(ix) Exchange Traded Fund ("ETF") Flow, which, on a principal or agency basis, conducts and facilitates customer trading in U.S. exchange-listed ETF securities, acts as a block positioner in certain U.S. exchange-listed ETF securities, and engages in domestic and international creation/redemptions of ETFs, basket swaps, passive index arbitrage, term swaps, and put/call combos;

(x) Exotic, which trades equities, futures, equity listed options, exotic equity options, equity swaps, and equity structured products on a principal basis;

(xi) FICC ETF, which, on a principal or agency basis, conducts and facilitates customer trading in U.S. exchange listed ETF securities. In addition, the desk also acts as a block positioner in certain U.S. exchange listed ETF securities and its activity also includes domestic and international creation/redemption of ETF's, basket swaps, passive index arb, term swaps, and put/call combinations;

(xii) Flow Index, which trades equities, equity indices, futures, equity listed options, equity vanilla OTC options, swaps, and equity structured products on a principal or agency basis;

(xiii) Franchise, which primarily conducts and facilitates customer trading, on both an agency and a principal basis, in U.S exchange-listed, OTCBB, and pink sheet securities and also acts as a market maker or block positioner in certain U.S. exchange-listed, OTCBB, and pink sheet securities;

(xiv) High Grade Credit Trading, which, on a principal basis, facilitates client flow in fixed income products, including Preferred Equities, and hedges and/or unwinds resulting in risk, including ETF hedging;

(xv) High Yield Loan Trading Distressed, which trades on a principal basis and provides liquidity and risk management services to different clients in fixed income products and unlisted equity, and may hedge and/or unwind the residual risk using, among others, listed equity, options, futures and ETFs (bonds and equity);

(xvi) International Trade, which primarily conducts and facilitates customer trading on both an agency and a principal basis in international securities (both ADRs and "locals") and acts as a market maker or block positioner in certain ADRs;

(xvii) North America Delta One Swap, which engages in financing client and counterparty swap transactions related to custom baskets and ETFs, facing institutional clients on swaps, and hedging the client swaps by executing in the market and with counterparties on a principal basis;

(xiii) Program Trading, which primarily trades baskets on a principal or agency basis and handles G-VWAP baskets, and a blind risk bid orders for clients;

(xix) Program Trading Risk, which primarily manages risk associated with client facing program trading risk transactions on a principal basis; and

(xx) Single Stock Flow Volatility, which trades equities, equity indices, futures, equity listed options, equity vanilla OTC options, swaps, and equity structured products on a principal or agency basis.

2. Equity Finance, which may, on a principal basis, buy or sell stocks in connection with its facilitation of stock borrows and loans; and

3. WMIS, which handles order flow derived from Wealth Management business lines on an agency basis and is able to source liquidity from other units of the JPMS equities business that in turn are able to access JPB-X via the algorithms/SOR as described above.

~~The JPMS equities business units listed below are able, on an agency, riskless principal, or principal basis, to enter or direct the entry of firm orders into JPMS algorithmic trading strategies and JPMS' smart order routing technology (the "SOR," or, collectively with the JPMS algorithmic trading strategies, the "algorithms/SOR"). As described in Part III, Item the algorithms/SOR is able to enter or direct the entry of firm orders and trading interest in the form of conditional orders (collectively, "Firm/Conditional Orders") into JPB-X (using the "JPMS" MPID) based on the algorithms/SOR's own routing determinations or, with respect to the initial conditional order only, the routing determinations of the JPMS business units~~

~~The JPMS business units with such access to JPB-X are as follows:~~

~~1. Over the Counter ("OTC") Listed International Sales and Trading, which (i) facilitates client trading on an agency, riskless principal, or principal basis, including electronic and portfolio trading, and hedges the resulting risk and (ii) acts as a market maker or block positioner in U.S. and non-U.S. equities, equity listed options, OTC options, equity swaps, exchange-traded funds, preferred stocks, credit products, and equity structured products, including the following trading desks:~~

~~2. American Depository Receipt ("ADR") Cross Trading, which primarily conducts dealer swaps between ADRs and U.S. stocks;~~

~~3. Convertible Bond Sales and Trading, which enters into convertible bond transactions with clients and hedges the resulting risk;~~

~~4. Fixed Income Sales and Trading, which provides liquidity to high-yield and distressed credit clients and hedges the resulting risk;~~

~~including the following trading desks:~~

~~(i) — High Yield Trading, which trades high yield debt and associated hedges;~~

~~(ii) — High Yield Loan Trading Distressed, which trades high yield distressed loans; and~~

~~(iii) — North America Credit Markets Preferred Stock, which trades preferred stocks;~~

~~5. — Commodities Trading, which provides liquidity to commodities clients and hedges the resulting risk;~~

~~6. — Equity Finance, which may buy or sell stocks in connection with its facilitation of stock borrows and loans; and~~

~~7. — WMIS Capital Markets, which handles order flow derived from Wealth Management business lines on an agency basis and is able to source liquidity from other units of the JPMS equities business that in turn are able to access JPB-X via the algorithms/SOR as described above.~~

Item 2: Affiliates Trading Activities on the ATS

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

☒ Yes ☐ No

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

The JPMS affiliates listed below are able, for their own or client accounts, (i) to enter or direct the entry of firm orders into JPMS' algorithms/SOR and (ii) to route firm orders to one or more of the JPMS business units identified in response to Part II, Item 1(a), which in turn are able to enter or direct the entry of firm orders into the algorithms/SOR. As described in Part III, Item 5, the algorithms/SOR is able to enter or direct the entry of Firm/Conditional Orders into JPB-X (using the "JPMS" MPID) based on the algorithms/SOR's own routing determinations or, with respect to the initial conditional order only, the routing determinations of the JPMS affiliates or JPMS business units. As non-FINRA members (with the exception of Global Shares Financial Services Inc.), the affiliates listed below do not have their own MPIDs.

1. Bear Stearns Asset Management Inc. ("BSAM") (regulated by the U.S. Securities and Exchange Commission ("SEC")), which is registered with the SEC as an investment adviser; BSAM and affiliated investment advisers comprise J.P. Morgan Asset Management, the investment management business of J.P. Morgan Asset & Wealth Management

2. JPMorgan Asset Management (China) Company Limited (regulated by the China Securities Regulatory Commission ("CSRC"), the People's Bank of China, and the State

Administration for Market Regulation of the People's Republic of China), which issues and sells funds and engages in investment management and other businesses approved by CSRC

3. Highbridge Capital Management LLC (regulated by the SEC, Securities and Futures Commission in Hong Kong, and Financial Conduct Authority in the United Kingdom ("FCA-UK")), which is a registered investment adviser and has developed a diversified investment platform, including hedge funds, daily liquidity products, and other similar investment products
4. J.P. Morgan Alternative Asset Management Inc. (regulated by the SEC), which is a U.S. investment advisory branch of J.P. Morgan Asset Management
5. J.P. Morgan Investment Management Inc. ("JPMIM") (regulated by the SEC, FCA-UK, Securities and Exchange Board India, Financial Supervisory Service in South Korea, and Financial Services Agency of Japan), which is registered with the SEC as an investment adviser; JPMIM and affiliated investment advisers comprise J.P. Morgan Asset Management
6. J.P. Morgan Private Investments Inc. (regulated by the SEC), which is an investment adviser registered with the SEC and operates within the Asset & Wealth Management line of business
7. J.P. Morgan Securities (Asia Pacific) Limited (regulated by the Hong Kong Monetary Authority and Securities and Futures Commission in Hong Kong), which engages in investment banking (corporate finance advisory and debt/equities securities origination and trading), market making of government bills and bonds, and the trading and marketing of FX, rate, money market, derivatives, cash equities, convertible bonds, distressed, and high yield assets
8. J.P. Morgan Securities Asia Private Limited (regulated by the Monetary Authority of Singapore), which holds a Capital Markets Services license to deal in securities and advise on corporate finance
9. J.P. Morgan Securities Australia Limited (regulated by the Australian Securities and Investments Commission), which a market, clearing, and settlement participant on the ASX and engages in stockbroking, equity research and services in the ETO market for wholesale clients and makes markets in and advises on equity swaps, OTC options, and exchange listed warrants
10. JPMorgan Asset Management (Asia Pacific) Limited (regulated by the Securities and Futures Commission in Hong Kong), which provides investment management services
11. J.P. Morgan Securities (Far East) Limited (regulated by the Securities and Futures Commission in Hong Kong), which is a broker and lead underwriter in PRC and engages in securities dealing and investment banking activities in its Seoul Branch
12. J.P. Morgan Securities plc (regulated by the FCA-UK and Prudential Regulation Authority in the United Kingdom), the principal activity of which is to be a booking and processing entity for investment banking activities initiated by other JPMorgan Chase & Co. ("JPMC") entities
13. J.P. Morgan (Suisse) SA (regulated by the Swiss Financial Market Supervisory Authority), which serves Swiss and international clients across the Private Banking and Investor Services lines of business

14. JPMorgan Asset Management (Europe) S.a.r.l. (regulated by the Commission de Surveillance du Secteur Financier), which is an investment management and management company
15. 55I, LLC (regulated by the SEC), which is a registered investment adviser and provides advisory services associated with tax harvesting solutions as well as ongoing trading and rebalancing services for clients
16. J.P. Morgan Markets Limited (regulated by the FCA-UK), which engages in global credit and equities trading
17. JPMorgan Asset Management (Japan) Limited (regulated by the Financial Services Agency of Japan), which engage in investment trust management, non-discretionary investment advisory services and discretionary investment management services, and the offering of beneficiary certificates of investment trusts and shares of non-Japanese pooled funds
18. JPMorgan Asset Management (Singapore) Limited (regulated by the Monetary Authority of Singapore), which engages in fund management
19. JPMorgan Asset Management (Taiwan) Limited (regulated by the Financial Supervisory Commission and Investment Commission of Ministry of Economic Affairs in Taiwan), which is an investment manager and securities investment trust
20. JPMorgan Asset Management (UK) Limited (regulated by the FCA-UK), which is a discretionary investment adviser
21. JPMorgan Chase Bank, National Association (regulated by the Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System, and Federal Deposit Insurance Corporation in the United States; Hong Kong Monetary Authority and Securities and Futures Commission in Hong Kong; Monetary Authority of Singapore; and FCA-UK and Prudential Regulation Authority in the United Kingdom), which is a wholly owned bank subsidiary of JPMC
22. JPMorgan Chase Funding Inc. (regulated by the Board of Governors of the Federal Reserve System), which may engage in activities permitted for a financial holding company as set forth in Board Regulation Y
23. JPMorgan Securities Japan Co., Ltd. ("JPMSJ") (regulated by the Financial Services Agency of Japan), which underwrites and trades securities, offers and brokers securities transactions, advises clients on business strategies, capital structures, and financial strategies, and engages in M & A derivative transactions booked outside of JPMSJ
24. Security Capital Research & Management Incorporated ("SCRM") (regulated by the SEC), which is registered with the SEC as an investment adviser; SCRM and affiliated investment advisers comprise J.P. Morgan Asset Management
25. J.P. Morgan SE (regulated by the German Federal Financial Supervisory Authority, German Central Bank, and European Central Bank), ~~which is a wholly owned bank subsidiary of JPMC~~ facilitates the provision of J.P. Morgan Global capabilities to Commercial & Investment Banking clients in the European Economic Area, also to EMEA clients in Private Bank

26. ~~First Republic Investment Management, Inc.~~ J.P. Morgan Private Wealth Advisors LLC (regulated by the SEC), which is a registered investment advisor offering private wealth management services

27. Global Shares Financial Services Inc. (regulated by the SEC and FINRA), which is a registered broker-dealer (MPID: GSFS) and administers employee share account services (stock plans) on behalf of and under an arrangement with clients, including effecting transactions on an omnibus basis

28. Almea 2 Segregated Portfolio Company (regulated by Cayman Island Monetary Authority), which is a wholly owned subsidiary of JPMorgan Chase Holdings LLC established to acquire hedge positions (for client trades) to the extent permitted to be acquired by JPMC and its subsidiaries.

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.

JPMS, sometimes in conjunction with its affiliates, offers Subscribers

1. Access to JPMS' algorithms/SOR, which in turn is able to access numerous trading centers, including JPB-X (as discussed in Part III, Item 5),
2. Access to JPMS' JISU technology, which is a low-latency platform, accessed via a FIX connection, that can be used to access directly JPMS' algorithmic trading strategies, smart order routing technology, JPB-X, JPM-X (another NMS Stock ATS operated by JPMS), and/or external venues, and
3. Neovest, which is an order and execution management system developed by JPMS' affiliate Neovest, Inc. and can be used to access numerous brokers, including JPMS and, specifically, JPMS' algorithms/SOR.

JPMS may offer Subscribers access to its algorithms/SOR and/or JISU technology pursuant to ~~an electronic trading agreement~~ any applicable contractual agreements with JPMS, such as any Electronic Trading Terms of Service, the terms of which (regarding, e.g., intellectual property

rights, warranties, indemnification obligations, and limitations of liability) are sometimes negotiated and generally do not contain specific terms and conditions for routing orders to JPB-X. ~~JPMS may offer~~ ~~Subscribers Neovest pursuant to sub-licensing schedules to that agreement. Subscribers may~~ utilize Neovest to access numerous brokers, including JPMS, pursuant to a click-through user agreement with Neovest, Inc.

Item 6: Activities of Service Providers

- a. Does any employee of the Broker-Dealer Operator or its Affiliate that services both the operations of the NMS Stock ATS and any other business unit or any Affiliate of the Broker-Dealer Operator (“shared employee”) have access to confidential trading information on the NMS Stock ATS?

☒ Yes ☐ No

If yes, identify the business unit, Affiliate, or both that the shared employee services, and provide a summary of the role and responsibilities of the shared employee at the ATS and the business unit, Affiliate, or both that the shared employee services.

Confidential trading information consists of data regarding open or partially open Firm/Conditional Orders in JPB-X ("real-time data") and data regarding fully or partially completed Firm/Conditional Orders in JPB-X, including executions and cancellations ("historical data"). Confidential trading information, however, does not include post-execution reporting under applicable reporting rules or regulations. Confidential trading information also does not include aggregated data resulting from the combination of the JPB-X historical data associated with a Subscriber's Firm/Conditional Order with data regarding other Firm/Conditional Orders of the Subscriber or other JPMS clients, whether or not such Firm/Conditional Orders were routed to JPB-X ("Aggregated Data"). Aggregated Data includes JPB-X historical data from only the prior trading day, including end of trading on trade date, or earlier. Aggregated Data can include any JPB-X historical data or some subset of JPB-X historical data. Aggregated Data sourced only from JPB-X historical data does not provide Subscriber-specific or symbol-specific information. Aggregated Data can be used (i) by JPMS to provide market color or trend analyses externally and/or to internal principal or agency trading desks or senior management (e.g., JPMS has included in marketing materials aggregate statistics regarding JPB-X such as executed volume); (ii) by JPMS to advertise, report on, or enhance the quality of its execution or other services offered to clients (e.g., JPMS has

included in marketing materials aggregate VWAP slippage statistics that incorporate execution data from JPB-X and other venues to which Subscribers' VWAP orders were routed); and (iii) by third parties so they can provide JPMS with analytics (regarding, e.g., its market share or other performance metrics on a client-by-client basis). Such data sets are sufficiently aggregated and/or anonymized that they protect the confidentiality of Subscribers' trading strategies and are not themselves confidential trading information. Moreover, the use of such data sets, depending on the context, may be subject to confidentiality restrictions under agreements with recipients of the data sets and/or JPMC policies and procedures.

No employee or contingent worker ("workforce member") of JPMS or its affiliates is dedicated solely to servicing the operations of JPB-X. Shared workforce members with some level of access to confidential trading information on JPB-X include those described below to the extent they have a need to know such information to perform their respective responsibilities in connection with: (i) the operations and support of JPB-X; (ii) JPMS' risk management and compliance with applicable law in operating JPB-X; (iii) assisting clients, senior management, and business units that send orders to JPB-X; or (iv) developing or maintaining JPMS's infrastructure and applications, including those related to JPB-X. In particular, as detailed below, limited groups of workforce members have access to all real-time and historical data in JPB-X (1), and limited groups of workforce members have access to all historical data from JPM-X (2). Separately, there are groups that have access to real-time and/or historical data regarding subsets of orders and executions that occur in JPB-X to perform their respective responsibilities (3). Persons authorized to access confidential trading information are prohibited from using confidential trading information for purposes other than those described below.

(1) The following groups have access to all real-time and all historical data in JPB-X for the purposes described below:

- a) Electronic Client Solutions ("ECS") Liquidity Product Specialists (workforce members of JPMS) responsible for the development and day-to-day operation of the SOR and JPMS' alternative trading systems, including JPB-X, who can access the JPB-X order book, which contains all real-time and historical data. This access allows ECS Liquidity Product Specialists to monitor the performance of JPB-X, prepare aggregated data sets as described above, detect any Subscriber behavior resulting in a materially negative impact to the operation of JPB-X or to other Subscribers or indicating a need to change a Subscriber's order flow type or tier assignment, work to resolve issues related to the foregoing that may arise, develop further product initiatives, and respond to

client inquiries and regulatory requests; and

- b) Personnel in technology groups (workforce members of JPMS) responsible for providing technical support or developing and maintaining applications, e.g., trading applications and other applications or services that support trading personnel described below, or infrastructure across JPMS, including the applications and infrastructure on which JPB-X relies, can access real-time and historical data regarding orders and executions that occur in JPB-X as necessary in the course of their work to provide support and develop and maintain the applications and infrastructure.

(2) The following groups have access to all historical data from JPB-X for the purposes described below:

- a) Operations personnel (workforce members of JPMS affiliates worldwide) responsible for processing and providing operational support for transactions effected by JPMS and its affiliates, including trades in JPB-X, who can access historical data so they can monitor the post-trade processing of and provide operational support for transactions executed in JPB-X, including with respect to the clearance, settlement, and allocation of such transactions, and work to resolve any processing or other operational issues that may arise; and
- b) Personnel in ~~Conduct~~ Compliance, Conduct and Operational Risk, Business Control Management, and technology groups (workforce members of JPMS affiliates worldwide), who can access historical data so they can maintain (i) JPMS' and its affiliates' compliance with laws applicable to the operation of JPM-X, including through supervision, surveillance and the preparation of regulatory reports and responses to regulatory request; and (ii) related systems.

(3) The following groups have access to real-time and/or historical data regarding subsets of orders and executions that occur in JPB-X for the purposes described below:

- a) The ECS Client Coverage, ECS Product, ECS Connectivity, and ECS Sales groups (workforce members of JPMS), which provide client services to ECS clients, including JPB-X Subscribers, and can access real-time data and historical data regarding subsets of orders and executions that occur in JPB-X so they can field inquiries from clients regarding orders routed to JPB-X by or on behalf of the clients;
- b) ECS senior management (workforce members of JPMS and its affiliates worldwide) responsible for the ECS business, including the JPB-X offering and its operation, who can access real-time and historical data at a summary level (e.g., aggregated order quantities by client or

symbol), and historical data so they can appropriately supervise and manage the ECS Liquidity Product Specialists, ECS Client Coverage, ECS Product, ECS Connectivity, and ECS Sales groups;

c) Personnel in the equities Analytics, Automation and Optimization quantitative research groups, Electronic Trading quantitative research groups, and the Markets Business Intelligence Group (together, the “Equities Quantitative Research Groups”) (workforce members of JPMS), who can access real-time and/ or historical data regarding JPB-X activity occurring through the upstream systems or desks they support when necessary in the course of their work to provide support or develop and maintain applications and infrastructure (including, in the case of (i) the Electronic Trading quantitative research group, to, e.g., develop quantitative models employed by the applications and to analyze the performance of these applications and their underlying models, (ii) the Analytics, Automation, and Optimization quantitative research group to, e.g., maintain the applications that support trading personnel described below and the integrity of data used by such applications; and (iii) the Markets Business Intelligence Group to, e.g., provide senior management with aggregated trading analytics);

d) Personnel in Operations and Business Control Management (described in section 2 above), who can access real-time data on a limited basis in connection with their responsibilities described above;

e) Business unit sales and trading personnel who route firm orders to the algorithms/SOR for execution (workforce members of JPMS and its affiliates worldwide), who can access real-time and historical data regarding orders and executions that occur in JPB-X regarding only that unit's or a subset of that unit's Firm/Conditional Orders so they can monitor such Firm/Conditional Orders, field inquiries regarding their orders, including those Firm/Conditional Orders routed to JPB-X, or provide technical support for related trading application; and

f) Personnel in Model Risk Governance and Review (workforce members of JPMS and its affiliates worldwide) who can access historical data so they can perform model governance and model review functions, including conducting independent assessment and monitoring of the performance of Firm models that execute transactions in JPB-X

Part III: Manner of Operations

Item 7: Order Types and Attributes

- a. Identify and explain each order type offered by the NMS Stock ATS. In your explanation, include the following:

- i. priority, including the order type's priority upon order entry and any subsequent change to priority (if applicable); whether and when the order type can receive a new time stamp; the order type's priority vis-à-vis other orders on the book due to changes in the NBBO or other reference price; and any instance in which the order type could lose execution priority to a later arriving order at the same price;
- ii. 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 the order type; whether an order type is eligible for routing to other Trading Centers;
- v. the time-in-force instructions that can be used or not used with each order type;
- vi. the circumstances under which order types may be combined with another order type, modified, replaced, canceled, rejected, or removed from the NMS Stock ATS; and
- vii. the availability of order types across all

forms of connectivity to the NMS Stock ATS and differences, if any, in the availability of an order type across those forms of connectivity.

Conditional and Firm Orders. The algorithms/SOR and Subscribers that access JPB-X directly can route to JPB-X (i) conditional orders and (ii) if any of the conditional orders match with other conditional orders in JPB-X, firm orders routed in response to firm-up invitations received directly from JPB-X (in the case of the SOR with respect to orders designated for Close Price Match and in the case of Subscribers that access JPB-X directly) or from JPB-X via the SOR (in the case of JPMS algorithmic trading strategies).

Matching Types. JPB-X accepts Firm/Conditional Orders designated for the following two matching types:

- Volume-Weighted Average Price Match ("VWAP Price Match"), which matches orders, using the conditional order process described in Part III, Item 9, and crosses them at a VWAP price determined by JPB-X over the course of a pre-determined match period; and
- Close Price Match, which matches orders, using the conditional order process described in Part III, Item 9, and crosses them at the security's official closing price as determined by the closing auction at the primary exchange for the security.

Firm/Conditional Orders designated for each matching type are maintained in separate order books within JPB-X and do not interact with each other.

Firm/Conditional Order Types. JPB-X accepts (1) limit and market Firm/Conditional Orders for the VWAP Price Match matching type and (2) market-on-close Firm/Conditional Orders for the Close Price Match matching type. A limit Firm/Conditional Order is a Firm/Conditional Order to buy or sell stock at a specific price or better. A market Firm/Conditional Order is a Firm/Conditional Order to buy or sell stock at the best available price. A market-on-close Firm/Conditional Order is a Firm/Conditional Order to buy or sell stock at its closing price as determined by the primary exchange for the stock. JPB-X does not offer post-only Firm/Conditional Order types, and none of the above Firm/Conditional Order types is eligible for routing to other Trading Centers. The above Firm/Conditional Order types cannot be combined (i.e., a Firm/Conditional Order cannot be more than one Firm/Conditional Order type). A buy-minus Firm/ Conditional Order is treated as a buy Firm/Conditional Order, and a sell-plus Firm/ Conditional Order is treated as a sell Firm/ Conditional Order.

Time-In-Force Instructions. For both VWAP Price Match and Close Price

Match matching types, JPB-X only accepts a "day" time-in-force instruction. A day Firm/Conditional Order is a Firm/Conditional Order intended to rest in an order book maintained by JPB-X until the Firm/Conditional Order is executed or cancelled at the end of the trading day or earlier. A blank time-in-force field is treated as a "day" time-in-force instruction.

Modifications, Replacements, and Cancellations. The algorithms/SOR and Subscribers that access JPB-X directly can modify, replace, or cancel day Firm/Conditional Orders routed to JPB-X, whether designated for VWAP Price Match or Close Price Match, as described below. The modification or replacement of a day conditional order results in the entry of a replacement conditional order with a new time stamp and lower priority in time than the original conditional order, unless the modification is a reduction in the quantity of the conditional order, in which case the replacement conditional order has a new time stamp but the same priority in time that the original conditional order had prior to its replacement. Note, however, that conditional orders designated for Close Price Match cannot be modified, replaced, or cancelled once the Close Price Match matching time is reached. The algorithms/SOR and Subscribers that access JPB-X directly can cancel or reduce the quantity of a firm-up order prior to its execution.

Rejections. JPB-X rejects (i) short sale exempt Firm/Conditional Orders, (2) short sale Firm/Conditional Orders designated for Close Price Match, (3) Firm/Conditional Orders priced at or above \$1.00 per share if priced in a sub-penny increment, (4) Firm/Conditional Orders priced below \$1.00 per share if priced in an increment of less than \$.0001, (5) odd lot Firm/Conditional Orders designated for the VWAP Price Match, (6) Firm/Conditional Orders that exceed limits imposed by JPMS pursuant to its obligations under SEC Rule 15c3-5, and (7) ~~beginning on October 30, 2023,~~ any order type and/or orders with any time-in-force instructions not identified above (for example, pegged orders).

Eligibility for Matching and Execution. A Firm/Conditional Order is ineligible for matching in JPB-X unless the price, minimum quantity, and counterparty preference instructions associated with the Firm/Conditional Order, if any, are satisfied. Conditional orders, but not firm orders, can have minimum match size requirements. As described in response to Part III, Item 9, when JPB-X sends a firm-up invitation, JPB-X cancels the corresponding conditional order, irrespective of the conditional order's minimum quantity instruction. As also described in response to Part III, Item 9, a firm-up order is ineligible for execution in JPB-X during the order's applicable firm-up period.

Matching of VWAP Price Match Orders. As described in response to Part III, Item 11, once JPB-X matches firm-up orders designated for VWAP Price Match and the match period has elapsed, the firm-up orders are

crossed, at the VWAP determined by JPB-X. In the event of (1) the cancellation of a firm-up order by the algorithms/SOR or a Subscriber that accesses JPB-X directly, (2) a response to a production issue, (3) the National Best Bid moving lower than or becoming equal to the limit of a matched sell order or the National Best Offer moving higher than or becoming equal to the limit of a matched buy order, (4) the triggering of a Rule 201 price test, or (5) the stock closing at the primary exchange, JPB-X will terminate the match period and issue partial fills before cancelling all matched firm-up orders. The quantity of a matched order's fill will be proportional to the duration of the match period and the price of the fill will be the VWAP over the duration of the match period (or, if a Rule 201 price test is in effect, at a price that is allowed by the rule). In addition, JPB-X does not execute a cross in any NMS stock that is subject to a regulatory or trading halt (a "Halt"), although, as described in response to Part III, Item 20, JPB-X will continue to accept Firm/Conditional Orders in such an NMS stock and instructions to modify, cancel, or replace Firm/Conditional Orders in that NMS stock using the priority logic described in response to Part III, Item 11(c). Firm-up orders that were matched but for which the match period has not elapsed will be cancelled by JPB-X immediately after the Halt goes into effect. If a Halt in an NMS stock occurs during regular trading hours while a firm-up period for one or more conditional orders in that security is underway, JPB-X rejects any firm-up order received during the firm-up period while the halt is in place.

Matching of Close Price Match Orders. As described in response to Part III, Item 11, once JPB-X matches firm-up orders designated for Close Price Match in a NMS stock, they are crossed, based on time priority, at the closing price as determined by the closing auction and published by the primary exchange for the NMS stock after the exchange closes. As described in response to Part III, Item 20, when a Halt is in effect for an NMS stock, JPB-X will continue to accept and match conditional orders designated for Close Price Match and to accept instructions to modify, cancel, or replace conditional orders in that NMS stock using the priority logic described in response to Part III, Item 11(c) but will not execute orders if the primary exchange does not publish a close price as determined by the closing auction for the stock, in which case JPB-X will cancel the unexecuted orders immediately after JPMS determines that the primary exchange has not published a close price as determined by the closing auction for the stock and has been delayed in doing so as a result of the Halt. Firm-up orders that were matched but have not yet been executed will be cancelled by JPB-X immediately after the Halt goes into effect.

Changes in NBBO. Although a change in the NBBO would not affect the relative priority of matched firm-up orders that remain eligible for execution after the change, the change could affect whether a firm-up order designated for VWAP Price Match with a price instruction

associated with it is eligible for execution and the execution price at which orders that remain eligible for execution are crossed

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.

JPB-X is an NMS Stock ATS that operates within JPMS as part of the Equities Division of the ~~Corporate~~Commercial and Investment Bank in JPMC, of which JPMS is a subsidiary, and offers matching services in NMS stocks. JPB-X is a crossing system that matches non-displayed conditional orders, and crosses non-displayed firm-up orders, designated to receive either a volume-weighted average price or the closing price of the NMS stock being traded.

- 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.

JPB-X rejects (i) short sale exempt Firm/Conditional Orders, (2) short sale Firm/Conditional Orders designated for Close Price Match, (3) Firm/Conditional Orders priced at or above \$1.00 per share if priced in a sub-penny increment, (4) Firm/Conditional Orders priced below \$1.00 per share if priced in an increment of less than \$.0001, (5) odd lot Firm/Conditional Orders designated for the VWAP Price Match, (6) Firm/Conditional Orders that exceed limits imposed by JPMS pursuant to its obligations under SEC Rule 15c3-5, and (7) ~~beginning on October 30, 2023~~, any order type and/or orders with any time-in-force instructions not identified in Part III, Item 7 above (for example, pegged orders).

A Firm/Conditional Order is ineligible for matching in JPB-X unless the price, minimum quantity, and counterparty preference instructions (see Part III, Items 13-14) associated with the Firm/Conditional Order, if any, are satisfied. Conditional orders, but not firm orders, can have minimum match size requirements. As described in response to Part III, Item 9, a firm-up order is ineligible for execution in JPB-X during the order's applicable firm-up period.

VWAP Price Match Rules and Procedures:

When two or more conditional orders designated for VWAP Price Match on opposite sides are eligible for matching in JPB-X, JPB-X matches them based on one-to-one random matching logic and sends firm-up invitations to the algorithms/SOR or Subscribers (as described in response to Part III, Item 9). Specifically, when assessing all eligible conditional orders able to be matched, JPB-X will, beginning with the side with fewer orders, randomly choose one conditional order on one side and one conditional order on the other side. A conditional order routed by the algorithms/SOR or directly by a Subscriber can be cancelled by the algorithms/SOR or Subscriber, respectively, before the conditional order is matched. Short sale conditional orders are not eligible for matching when a price test under Rule 201 of Regulation SHO is in effect.

Once the firm-up period described in Part III, Item 9 has elapsed, JPB-X matches the firm-up orders it received during the firm-up period (subject to the eligibility criteria for the firm-up orders discussed above and the firm-up orders' participation instructions). If either firm-up order quantity is less than the firm-up invitation quantity, JPB-X will match the firm-up orders (for the quantity that will satisfy the smaller firm-up order) at the end of the match period and cancel back any residual (see example below). A pre-determined default match period commences upon the earlier of (i) JPB-X's receipt of firm-up orders corresponding to all firm-up invitations sent by JPB-X or (ii) the expiration of the firm-up period. The default match period is currently five minutes for all firm-up orders.

As noted above, for the VWAP Price Match, JPB-X will commence the five minute match period with a match quantity that will satisfy the smaller firm-up order. For example, JPB-X can match a Conditional Order to buy 1000 shares of ABC designated for the VWAP Price Match ("Order 1") with a Conditional Order to sell 500 shares of ABC designated for the VWAP Price Match ("Order 2") with a match quantity of 500 shares. If Order 1 firms up with 500 shares and Order 2 firms up with 300 shares, JPB-X will commence the five minute match period with a final match quantity of 300 shares. JPB-X will indicate the final match quantity of 300 shares on the firm-up order acknowledgement for Order 1 and Order 2 and will indicate the cancellation of 200 shares for Order 1 at the end of the match period.

During the match period, JPB-X monitors market data reported via the SIP (see Part III, Item 23) and any changes to parent order attributes. Once the match period elapses, JPB-X crosses the matched firm-up orders at the VWAP (if one exists and it is within the matched orders' price limits, if any), determined by JPB-X based on executed trades reported via the SIP during the match period. Trade prices reported pursuant to the UTP Plan with the following sale conditions will be excluded when calculating the VWAP for the match period: Price Variation Trade, Market Center Official Close, Next Day Market Center Official Open, Extended trading hours (Sold Out of Sequence), Average Price Trade, Sold (out of sequence), Derivatively priced, Qualified Contingent Trade (QCT). Trade prices reported pursuant to the CTA Plan with the following sale conditions will be excluded when calculating the VWAP for the match period: Average Price Trade, Price Variation Trade, Market Center Official Close, Next Day Trade (Next Day Clearing), Market Center Official Open, Extended Hours Trade, Extended Hours Sold (Out of Sequence), Sold (Out of Sequence), Derivatively Priced, and Qualified Contingent Trade. If there are no eligible trades in the security during the match period for VWAP Price Match firm-up orders and therefore a VWAP cannot be determined, the matched firm-up orders are cancelled without a fill.

In the event of (1) the cancellation of a firm-up order by the algorithms/SOR or a Subscriber that accesses JPB-X directly (2) a response to a production issue, (3) the National Best Bid moving lower than or becoming equal to the limit of a matched sell order or the National Best Offer moving higher than or becoming equal to the limit of a matched buy order, (4) the triggering of a Rule 201 price test, or (5) the stock closing at the primary exchange, JPB-X will terminate the match period and issue partial fills before cancelling all matched firm-up orders. The quantity of a matched order's fill will be proportional to the duration of the match period and the price of the fill will be the VWAP over the duration of the match period (or, if a Rule 201 price test is in effect, at a price that is allowed by the rule). For example, if the full match quantity is 5,000 shares over five minutes and one of the firm-up orders is cancelled two minutes after the match period began, JPB-X will end the match period and will execute 2,000 shares. The price of the

fill will be the VWAP over the duration of the match period up until the time of cancellation of the matched firm-up order.

JPB-X does not execute a cross in any NMS stock that is subject to a Halt (although, as described in response to Part III, Item 20, JPB-X will continue to accept Firm/Conditional Orders in such an NMS stock and instructions to modify, cancel, replace Firm/Conditional Orders in that NMS stock). Firm-up orders that were matched but for which the match period has not elapsed are cancelled by JPB-X immediately after the Halt goes in effect. If a Halt in an NMS stock occurs during regular trading hours while a firm-up period for one or more conditional orders in that security is underway, JPB-X rejects any firm-up order received during the firm-up period while the halt is in place.

Close Price Match Rules and Procedures:

A conditional order routed by the algorithms/SOR or directly by a Subscriber can be cancelled by the algorithms/SOR or Subscriber, respectively, before the Close Price Match matching time.

Following the Close Price Match matching time (see response to Part III, Item 4), JPB-X (i) matches conditional orders designated for Close Price Match on opposite sides that are eligible for matching in JPB-X based on time priority and (ii) sends firm-up invitations to the algorithms/SOR or Subscribers (as described in response to Part III, Item 9). JPB-X does not accept conditional orders or amendments or cancellations of conditional orders after the Close Price Match matching time. JPB-X accepts firm-up orders and amendments to firm-up orders (to reduce quantity) after the Close Price Match matching time, during the firm-up period. JPB-X does not accept cancellations of firm-up orders designated for Close Price Match from the algorithms/SOR or Subscribers.

Once the firm-up period described in Part III, Item 9 has elapsed, JPB-X matches the firm-up orders designated for Close Price match received during the firm-up period (subject to the eligibility criteria for the firm-up orders discussed above and the firm-up orders' participation instructions) based on the time priority previously afforded the corresponding same-side conditional orders that preceded the firm-up orders, respectively. Unmatched firm-up orders are cancelled back to the SOR or, for any unmatched firm-up orders routed directly by a Subscriber, the Subscriber. Once the official closing price as determined by the closing auction is published by the primary exchange for the NMS stock, JPB-X crosses the matched firm-up orders at that closing price as reported by the SIP (see Part III, Item 23). A Close Price Match firm-up order (a) will be cancelled if the primary exchange does not publish a close price as determined by the closing auction for the stock and (b) may not be executed fully or at all if it is partially or fully cancelled as a result of a response to a production issue.

As described in response to Part III, Item 20, when a Halt is in effect for an NMS stock, JPB-X will continue to accept and match conditional orders designated for Close Price Match and to accept instructions to modify, cancel, or replace conditional orders in that NMS stock using the priority logic described in this response but will not execute orders if the primary exchange does not publish a close price as determined by the closing auction for the stock, in which case JPB-X will cancel the unexecuted orders immediately after JPMS determines that the primary exchange has not published a close price as determined by the closing auction for the stock and has been delayed in doing so as a result of the Halt. Firm-up orders that were matched but have not yet been executed will be cancelled by JPB-X immediately after the Halt goes into effect.

Additional Rules and Procedures for JPB-X Generally:

JPMS, at the request of a Subscriber or on JPMS' own initiative, may determine to review any transaction in JPB-X to assess whether it was adversely affected by a technical issue or "clearly erroneous" as defined by relevant regulators (e.g., under FINRA Rule 11891, "the terms of a transaction are 'clearly erroneous' when there is an obvious error in any term, such as price, number of shares, or other unit of trading, or identification of the security"). If JPMS determines that a transaction was adversely affected by a technical issue or clearly erroneous, whether or not as a result of JPMS or Subscriber error, JPMS, depending on the facts and circumstances, may work with the affected Subscriber(s) to resolve the error and may cancel (bust) the transaction or assume responsibility for one side of the transaction and work to cover the resulting position as soon as is practicable. JPB-X also may suspend matching in the event of volatile market conditions (e.g., wide bid/offer spreads).

JPB-X time stamps orders upon receipt and executions at the time they occur and reports them in milliseconds in accordance with applicable FINRA ~~Order~~Consolidated Audit Trail System and trade reporting rules. JPB-X determines queue position based on new order receipt times with microsecond precision, except in the case of a reduction in the quantity of an order in which case, the replacement order assumes the queue position of the original order.

Form ATS-N
JPMS CRD # 79

Part I, Item 8—Identifying Information

Request: *Attach as Exhibit 1, the most recently filed or amended Schedule A of Form BD for the Broker-Dealer Operator disclosing information related to direct owners and executive officers.*

Response:
Schedule A –Direct Owners

Full Legal Name	CRD / Tax ID	Entity Type	Roles	Date Role Acquired	Ownership %	Control Person	Public Reporting Company
J.P. Morgan Broker-Dealer Holdings Inc.	13-4110995	Domestic Entity	Stockholder	09/2010	75% or more	Y	N
<u>Aidelson, David</u>	<u>7884539</u>	<u>Individual</u>	<u>Chief Legal Officer</u>	<u>02/2024</u>	<u>Less than 5%</u>	<u>N</u>	<u>N</u>
Bartolomei, Danielle	4442543	Individual	Chief Compliance Officer- Broker Dealer	9/2023	Less than 5%	N	N
Bisesi, Brian J	3090554	Individual	Elected Manager and Member	02/2022	Less than 5%	Y	N
Choi, Michael	6597789	Individual	Chief Compliance Officer – Registered Investment Adviser	9/2023	Less than 5%	N	N
Collins, James Michael	2725065	Individual	Chief Financial Officer	06/2008	Less than 5%	N	N
Dempsey, Patrick Paul	2830362	Individual	Treasurer	08/2013	Less than 5%	N	N
Freilich, William Howard <u>Foley, Kevin</u>	2203801 <u>4012244</u>	Individual	<u>Elected Manager</u> Chief Legal Officer	05/2013 <u>02/2024</u>	Less than 5%	N	N
Jury, Claudia	6403910	Individual	Elected Manager and Member	02/2020	Less than 5%	Y	N
Klion, Roger	5082261	Individual	Chief Operating Officer	10/2020	Less than 5%	N	N
McCrum, Carrie	7675791	Individual	Elected Manager and Member	9/2023	Less than 5%	Y	N

Rivas, Fernando	4803269	Individual	Elected Manager and Member	07/2022	Less than 5%	Y	N
Sieg, William Phillip	1066159	Individual	Elected Manager and Member	08/2021	Less than 5%	Y	N
Simmons, John E	2727754	Individual	Elected Manager and Member	02/2021	Less than 5%	Y	N
Sippel, Jason Edwin	1718602	Individual	CEO, Chairman, and Elected Manager and Member	01/2013	Less than 5%	Y	N
Tepper, Eric David	2242377	Individual	Elected Manager and Member	08/2017	Less than 5%	Y	N
<u>Vienick, Paul</u>	<u>2212982</u>	<u>Individual</u>	<u>Elected Manager</u>	<u>02/2024</u>	<u>Less than 5%</u>	<u>N</u>	<u>N</u>

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Padding cell	

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Total changes	102

