Preface

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JPM-X – Alternative Trading System (ATS)

1. Does JPMS operate an ATS?

Yes. JPMS operates two alternative trading systems, JPM-X and JPB-X. These FAQs relate to JPM-X.

2. Can clients opt out of JPM-X?

Yes. As with any non-protected venue under Regulation NMS, clients may opt out of executing within JPM-X by instructing their ECS representative.

3. What order types and attributes does JPM-X accept?

JPM-X accepts limit, primary peg, midpoint peg, and market peg orders. Peg orders may also have a limit price. JPM-X supports DAY and IOC time-in-force instructions on orders.

4. Does JPM-X support conditional orders?

Yes, JPM-X accepts limit, primary peg, midpoint peg, and market peg conditional orders. Peg conditional orders may also have a limit price. JPM-X supports only DAY time-in-force instructions on conditional orders.

5. Does JPM-X send or receive Indications of Interest (IOI)?

No, JPM-X does not send or receive IOIs.

6. What order priority is used to determine a match within JPM-X?

All orders, once found eligible for crossing, are executed by JPM-X on the basis of price/tier/time priority (with, at a given price level, orders having priority over conditional orders). This means, for example, that of two equally priced orders, the one that is in the higher priority tier will take priority regardless of the time it was submitted to JPM-X.

7. Please provide details regarding the participants that contribute to JPM-X’s liquidity

The participants in JPM-X include internal trading desks, affiliates, and clients of JPMS. These clients include, but are not limited to, mutual funds, hedge funds, other institutional investors, broker-dealers, and electronic liquidity providers.

8. Does JPM-X internalize client order flow against JPMS’ principal and proprietary flow? Can clients opt out of principal and proprietary order flow?

Client orders may be internalized against principal order flow. Clients are able to opt out of interacting with principal order flow types (see FAQ 12). It is against JPMS policy to engage in proprietary trading activity that JPMS believes would be prohibited under the Volcker Rule (Section 13 of the Bank Holding Company Act of 1956 and the associated rules and regulations). Note, however, that JPMS’ understanding and application of the Volcker Rule may evolve over time.
9. **Do any JPMS-affiliated entities access JPM-X?**

JPMS' algorithms/SOR may route conditional orders and orders from affiliates of JPMS to JPM-X for execution.

10. **How do clients access JPM-X?**

JPMS' clients, affiliates, and internal traders can access JPM-X through JPMS' algorithms/SOR. JPMS' clients and internal traders also can access JPM-X directly.

11. **Please explain JPMS' monitoring of JPM-X.**

During the course of a trading day, JPMS personnel monitor various JPM-X parameters, including, for example, burst rates, order and cancellation rates, and other criteria, to better assure that JPM-X is operating appropriately. In addition, on a post-trade basis, JPMS personnel review reports and other information designed to detect certain trading behavior that may affect JPM-X.

12. **Does JPM-X allow participants to opt out of interaction with certain flow?**

Conditional orders and orders routed to JPM-X are categorized in JPMS' sole discretion by order flow type, each of which is assigned to a tier, as described below. Clients may choose to opt out of interacting with one or more order flow types or tiers. In addition, JPMS may further limit the order flow types or tiers with which conditional orders and orders interact to protect the interests of clients; accordingly, a client may be prevented from interacting with an order flow type or tier with which the client has not opted-out of interacting. The order flow types and tiers are as follows:

**Tier 1**
- Institutional investor client flow and JPMS affiliates' flow accessing JPM-X via the algorithms/SOR

**Tier 2**
- Institutional investor client flow with direct access to JPM-X

**Tier 3**
- U.S.-registered broker-dealer client flow (both agency and principal) accessing JPM-X via the algorithms/SOR

**Tier 4**
- P1: Internal (JPMS) trading desk flow accessing JPM-X via the algorithms/SOR
- P2: Internal (JPMS) electronic liquidity provider flow with direct access to JPM-X

**Tier 5**
- I4 / ELP: Flow of external broker-dealers acting as electronic liquidity providers with direct access to JPM-X
- I5: Flow of external broker-dealers not acting as electronic liquidity providers (both agency and principal) with direct access to JPM-X
13. **Please explain the JPM-X matching logic.**

JPM-X continuously looks for crossing opportunities at or within the NBBO for orders that it accepts. JPM-X does not execute a cross if the inside market for a stock is crossed (where the bid price exceeds the offer price) or locked (where the bid price is equal to the offer price). JPM-X also does not execute a cross in any security that is subject to a regulatory or trading halt.

In looking for crossing opportunities, JPM-X complies with any applicable participation instruction associated with each order. All orders, once found eligible for crossing, are executed by JPM-X on the basis of price/tier/time priority as described in FAQ 6.

When a circuit breaker has been triggered for a security under Rule 201 of Regulation SHO and JPM-X is executing a cross where the sell side of the cross constitutes a short sale, JPM-X will always execute above the National Best Bid.

14. **What market data feeds are used by JPM-X?**

JPMS determines the NBBO and protected quotes and executes transactions in JPM-X based on market data received from direct feeds or, in the case of any market data for CHX, NYSE American, NYSE National, and ADF, Securities Information Processors (the “SIP”). In the event of any disruption of services or other issues with any of the direct feeds, JPMS reserves the right to execute transactions in JPM-X based on market data from the SIP for any (or all) market center(s). The list of market centers for which JPMS receives market data from direct feeds may change from time to time.

15. **What is JPMS’ expected behavior in the event of a disruption in the ability to trade report to a FINRA trade reporting facility?**

Upon determining that JPMS’ ability to report to a FINRA trade reporting facility has been compromised, the Firm may take steps to limit impact by ceasing to execute trades in JPM-X.

JPMS will endeavor to notify clients that access JPM-X directly of the Firm’s response to such FINRA trade reporting facility systems issues as appropriate.

16. **Does JPMS allow clients to co-locate with JPM-X?**

Clients that seek to increase the speed of their communication with JPM-X can choose to route orders and conditional orders directly to JPM-X via JPMS’ JISU platform rather than having orders and conditional orders routed to JPM-X on their behalf via the algorithms/SOR. Lucera is a third-party connectivity provider that connects such clients to JISU via a fiber cross-connect between Lucera and JISU. Additionally, clients can contract directly with datacenter owners to co-locate with JPM-X in the same data center, although not in the same rack in the data center.

17. **Does JPMS allow electronic liquidity providers to enter orders into JPM-X?**

Yes. Electronic liquidity providers are permitted to enter orders in JPM-X, as described in FAQ 12.

18. **Can we opt out of trading with electronic liquidity providers?**

Yes. See FAQ 12.

19. **Who has access to JPM-X information?**

Written policies and procedures restrict access to JPM-X information to persons responsible for the operation of and/or compliance by JPM-X, as described below. JPM-X conditional order, order, and execution data (real-time and historical) is available to (i) ECS Liquidity Product Specialists responsible for the development and day-to-day operation of the SOR and JPMS’ alternative trading systems,
including JPM-X, and (ii) personnel in technology groups responsible for developing and maintaining electronic trading applications and infrastructure across JPMS, including the applications and infrastructure on which JPM-X relies. JPM-X summary data regarding same-day orders is available to (i) ECS supervisors and senior management responsible for the ECS business, including the JPM-X offering and its operation, and (ii) ECS Client Coverage, ECS Connectivity Product, and ECS Sales groups providing client services to ECS clients, including clients whose orders are routed to JPM-X. JPM-X data regarding same-day completed orders and orders from prior trading days is available to (i) ECS Client Coverage, ECS Connectivity Product, and ECS Sales groups providing client services to ECS clients, including clients whose orders are routed to JPM-X; (ii) Middle Office personnel responsible for processing transactions effected by JPMS and its affiliates, including trades in JPM-X; and (iii) personnel in technology groups, Compliance, and Regulatory Management responsible for facilitating JPMS' and its affiliates' compliance with applicable law, including with respect to the operation of JPM-X. JPMS traders for whom the algorithms/SOR routes principal or agency conditional orders and orders to JPM-X have limited access to view the status of such conditional orders and orders.
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