

MEMX LLC

Date of filing: September 9, 2019

Date as of which information is accurate: September 9, 2019

EXHIBIT E

Describe the manner of operation of the System. This description should include the following:

1. The means of access to the System.
2. Procedures governing entry and display of quotations and orders in the System.
3. Procedures governing the execution, reporting, clearance and settlement of transactions in connection with the System.
4. Proposed fees.
5. Procedures for ensuring compliance with System usage guidelines.
6. The hours of operation of the System, and the date on which applicant intends to commence operation of the System.
7. Attach a copy of the users' manual.
8. If applicant proposes to hold funds or securities on a regular basis, describe the controls that will be implemented to ensure safety of those funds or securities.

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The Exchange proposes to register as a national securities exchange under Section 6 of the Exchange Act. The Exchange's parent company, MEMX Holdings LLC ("MEMX Holdings") will elect all directors of the Board of Directors of the Exchange. However, Section 7.4 of the Exchange LLC Agreement provides a process by which members of the Exchange ("Members") may nominate representatives to the Board that complies with the requirement for fair representation of Members in the selection of directors. The Members will consist of those broker-dealers admitted to transact business on the Exchange. Members will be subject to the rules of the Exchange, and will have representation on the Exchange's Board of Directors and committees. Members who are not also shareholders of MEMX Holdings shall not have any ownership interest in the Exchange.

Once registered, the Exchange will operate a fully automated electronic book ("MEMX Book") for orders to buy or sell securities with a continuous, automated matching function, as described in Chapter 11 of the proposed Exchange Rules. Liquidity will be derived from orders to buy and orders to sell submitted to the Exchange electronically by its Members from remote locations. There will be no physical Exchange trading floor.

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Membership in the Exchange will be open to any broker-dealer registered under Section 15(b) of the Exchange Act that meets the standards for membership set forth in Chapter 2 of the proposed Exchange Rules. There will be one class of membership, with all Members enjoying the same rights and privileges on the Exchange. Members may further register as Market Makers subject to the requirements and obligations of proposed Exchange Rules 11.17 through 11.20. Members may be subject to fees for orders executed on the Exchange as set forth in the Rules of the Exchange or as may otherwise be determined by the Board of Directors of the Exchange from time-to-time, subject to filing with the Commission. Exchange memberships will not be transferable except in the event of a change in control of a Member, and such transfer will be subject to the written consent of the Exchange, and to any conditions to such transfers imposed by the Exchange. A more detailed description of the membership criteria is set forth in Chapter 2 of the proposed Exchange Rules, as set forth in Exhibit B to this Form 1.

Regulation SCI

Regulation Systems Compliance and Integrity (“Regulation SCI”) requires self-regulatory organizations (defined in the regulation as SCI entities) to have, among other things, robust and resilient technological systems that ensure the self-regulatory organization’s own operation capability, including the ability to maintain effective operations, minimize or eliminate the effect of performance degradations, and have sufficient backup and recovery capabilities. Specifically, Regulation SCI Rule 1001(a) requires each SCI entity to establish, maintain and enforce policies and procedures reasonably designed to ensure that its SCI systems have levels of capacity, integrity, resiliency, availability, and security adequate to maintain the SCI entity’s operational capability and promote the maintenance of fair and orderly markets.

Regulation SCI Rule 1001(a)(2)(v) further requires business continuity and disaster recovery plans that include maintaining backup and recovery capabilities that are both sufficiently resilient and geographically diverse and that are reasonably designed to achieve next business day resumption of trading and two-hour resumption of critical SCI systems following a wide-scale disruption. To be deemed sufficiently resilient, Regulation SCI has established a goal for SCI entities of next business day resumption of trading and two-hour resumption of critical SCI systems following a wide-scale disruption. To be considered geographically diverse, Regulation SCI provides a reasonable degree of flexibility to an SCI entity to determine the precise nature and location of its backup site. Regulation SCI does not specify a minimum distance from an SCI entity’s backup and recovery facilities. However, the backup site should not rely upon the same infrastructure components nor be subject to the same vulnerabilities or risks as its primary site.

The Exchange will be in compliance with all aspects of Regulation SCI including the requirements for its backup and recovery capabilities. The Exchanges’ disaster recovery plans in general and its backup data center in particular will be robust and resilient. It should be noted that the Exchange does not plan to initially operate any critical SCI systems and therefore will not be required to meet the two-hour resumption of service goal set forth in Regulation SCI.

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The Exchange plans to be primarily operated out of a third party data center in New Jersey (the “Primary Data Center”). The Exchange plans to have its secondary site (the “Secondary Data Center”) located in a third party data center in Illinois. Exchange personnel will operate primarily out of Exchange offices in Jersey City, New Jersey and the Primary Data Center. As described below, in the event of a wide-scale disruption that forces the Exchange to activate its back-up recovery sites, the Exchange’s staff will work as described in the MEMX Disaster Recovery Plan.

The topology of the system will include complete redundancy of software level components such that a failure of a single software component, due to server hardware or network device failures, will recover to a backup instance. Depending on the specific failed component, redundancy will be able to exist within the primary system or within an independent secondary hardware system. In the event of a widespread Primary Data Center site failure, the Secondary Data Center will be available for the site failover. The systems deployed in the Secondary Data Center will be designed, deployed and tested to be sufficiently resilient and comply with the Regulation SCI requirement to be operational no later than the next business day after declaring a disaster in the Primary Data Center.

The Secondary Data Center will be sized with servers and networking equipment such that it will provide identical functional services as the Primary Data Center site. The Secondary Data Center selected for the Exchange will be in accordance with the Regulation SCI requirements for maintaining backup and recovery capabilities that are both sufficiently resilient and geographically diverse. The Secondary Data Center will be more than 500 miles away from the Primary Data Center with reasonable geographical and supporting infrastructure diversity.

In accordance with Regulation SCI requirements, the supporting framework will be designed and implemented to operate and maintain robust and resilient technological systems that ensure the Exchange’s own operational capability. This will include the ability to maintain effective operations, minimize or eliminate the effect of performance degradations, and provide sufficient backup and recovery capabilities. The supporting framework will also facilitate maintaining and enforcing written policies and procedures reasonably designed to ensure that its SCI systems have levels of capacity, integrity, resiliency, availability, and security adequate to maintain the SCI entity’s operational capability and promote the maintenance of fair and orderly markets.

In addition, with respect to personnel necessary to operate the Exchange’s market in the event of a wide-scale disruption that forces the Exchange to activate its back-up recovery sites, the Exchange’s staff will work as described in the MEMX Disaster Recovery Plan. Should the Exchange need to operate in a Disaster Recovery mode, all of the Exchange’s market and technology operations staff will have the full set of tools necessary to operate the market as described in the MEMX Business Continuity Plan. Additionally, staff members of each of these departments will work, on a rotating schedule, enact the MEMX Business Continuity Plan to ensure that their remote configuration is fully functioning and that there are no issues interacting remotely with the Exchange or any of its supporting systems.

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In accordance with Rule 1001(a) of Regulation SCI, the Exchange will have written policies and procedures in place that reflect its operational capabilities, including the ability to maintain effective operations, minimize or eliminate the effect of performance degradations, and have sufficient backup and recovery capabilities.

Proposed Exchange Rule 2.4 (Mandatory Participation in Testing of Backup Systems) provides that pursuant to Regulation SCI and with respect to the Exchange's business continuity and disaster recovery plan, including its disaster recovery systems, the Exchange is required to establish standards for the designation of Members that the Exchange reasonably determines are, taken as a whole, the minimum necessary for the maintenance of fair and orderly markets in the event of the activation of such plans. The Exchange will establish standards and will publish such standards in a circular to Members prior to launch of the Exchange and will designate Members according to those standards as set forth below. All Members will be permitted to connect to the Exchange's disaster recovery systems and to participate in testing of such systems.

Proposed Exchange Rule 2.4 further provides that certain Members will be required to connect to the Exchange's disaster recovery systems and participate in functional and performance testing as announced by the Exchange, which will occur at least once every 12 months. As provided by proposed Exchange Rule 2.4, Members that have been determined by the Exchange to contribute a meaningful percentage of the Exchange's overall volume must participate in mandatory testing of the Exchange's backup systems. The percentage of volume that the Exchange considers to be meaningful will be determined by the Exchange and will be published in a circular distributed to Members. The Exchange will provide at least six months prior notice to a Member that is designated for mandatory testing.

Any changes to the designation standards will be published by the Exchange in a circular distributed to Members in advance of the start of any measurement quarter and will not be applied retroactively to any measurement quarter then completed or in progress.

This exhibit describes, in summary form, the proposed operation of the Exchange. A more detailed description of the proposed Exchange is set forth in the proposed Exchange LLC Agreement and Rules of the Exchange. See Exhibits A and B to this Application.

1. The means of access to the System.

Members of the Exchange will be permitted to access the Exchange electronically through the use of a variety of systems. The Exchange has designed its systems to allow its Members to individually determine the best method for accessing the Exchange. Thus, Members may develop their own customized front-end software using protocols determined by the Exchange, or may use third-party vendors to route orders to the Exchange via a front end or service bureau configuration. Users will be able to access the Exchange remotely through a variety of methods and connections that support a minimum data exchange rate, as may be determined by the Exchange from time-to-time.

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Direct access to the Exchange is available to Members at an Internet Protocol (“IP”) address by one or more of the following methods: (i) electronic access at the Exchange’s IP network address by the Member’s own software, via communications that are compliant with the Financial Information Exchange (“FIX”) protocol application layer definition provided by the Exchange; (ii) electronic access at the IP network address maintained by the Exchange by the Member’s own software that is compliant with the protocols provided by the Exchange; or (iii) other means of access provided from time to time by the Exchange.

Members provide a unique IP address range to the Exchange for their requested connection, and the Exchange then configures its routers to only allow access from the Member’s IP address range to dedicated IP addresses on the Exchange’s order handling network. By requiring the use of a unique IP address range, the Exchange assures that only authorized Members can gain access to the Exchange.

Members will be responsible for having procedures reasonably designed for safeguarding access to the Exchange and for notifying the Exchange upon learning that such safeguards have been compromised. Connectivity to the Exchange will occur through private telecommunications networks. Specifically, each Member will be assigned one or more gateways to interact with the Exchange.

As necessary, the Exchange will join any applicable plan that other national securities exchanges and/or Market Centers (as such term is defined in Rule 600(b)(38) of Regulation NMS) have joined (the “Plans”). For example, the Exchange intends to become a participant in the Nasdaq-UTP Plan as well as the Consolidated Tape Association (“CTA”) Plan and Consolidated Quotation (“CQ”) Plan and will collect and submit to the relevant Plan processor the best priced buy order and the best priced sell order displayed on the Exchange in Eligible Securities, as defined in these Plans. The Exchange will likewise join all other applicable Plans as deemed necessary and in the interest of its Users, including, but not limited to, the NMS Plan to Address Extraordinary Market Volatility, the NMS Plan Governing the Consolidated Audit Trail (the “CAT NMS Plan”), the NMS Plan for the Selection and Reservation of Securities Symbols and 17d-2 Plans for Allocation of Regulatory Responsibilities.

Non-members also may access the Exchange pursuant to Exchange rules governing “sponsored access” to the Exchange. The Exchange plans to permit access to the Exchange to entities (“Sponsored Participants”) whose access is authorized in advance by one or more members (“Sponsoring Member”) in accordance with Exchange Rules. The Sponsoring Member must agree to be responsible for all trading conducted pursuant to that arrangement to the same extent as trading conducted by the Member for customers. The Sponsoring Member is responsible for implementing policies and procedures for supervising and monitoring the trading effected pursuant to the arrangement to ensure that it is in compliance with all applicable federal securities laws and rules and Exchange Rules. In addition, Sponsored Participants must agree to comply with all applicable Exchange Rules governing the entry, execution, reporting, clearing and settling of orders in securities eligible for trading on the Exchange.

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2. *Procedures governing entry and display of quotations and orders in the System.*

(a) Entry of Orders on the Exchange.

The Exchange will accept the submission of orders by Exchange Members in securities admitted to unlisted trading privileges (“UTP”) on the Exchange.

Orders will be accepted for any such security, whether submitted by a Member on a proprietary or agency basis, in any size limited to a maximum of 1,000,000 shares or \$30,000,000.00.

Orders may be submitted in round lots, mixed lots, or odd lots. To reduce the possibility of the entry of erroneously large orders, the Exchange will provide Members with the ability to establish parameters as to the maximum number of shares that can be entered on their behalf or on behalf of their clients in any given order.

The Exchange intends for its System to be relatively simple, without many of the complex order types or instructions available on other national securities exchanges. Members may submit the orders with time-in-force terms set forth in proposed Exchange Rule 11.8. Each of these types of orders and time-in-force terms are described in detail in proposed Exchange Rule 11.8.

Although each of the types of orders and time-in-force terms is directly based on a type of order or time-in-force in place on another national securities exchange, the Exchange has proposed a single feature that the Exchange believes is unique. Specifically, in connection with a Limit Order submitted with a Reserve instruction, as defined in Exchange Rule 11.6(k), a Member may select the Random Replenishment feature, which randomizes the size of an order that is re-displayed after an execution of displayed interest that triggers replenishment. In turn, the Exchange has proposed that a Member entering an order into the System subject to the Random Replenishment instruction may elect to have the System randomly replenish the displayed replenishment quantity at different time intervals ranging up to one (1) millisecond following each execution that triggers replenishment. The non-displayed portion of an order subject to this time interval Random Replenishment will remain fully executable prior to the replenishment of a User’s displayed quantity.

Members will also be permitted to enter short sales, in accordance with the provisions of Regulation SHO of the Exchange Act. The Exchange will treat locked and crossed markets as set forth in Chapter 11 of the proposed Exchange Rules. The Exchange will maintain a full audit trail of every order submitted to the Exchange’s System. Members may receive status reports regarding orders submitted to the Exchange or change or cancel an order at any time before that order is executed on the Exchange.

All securities will be traded in decimals on the Exchange. Bids, offers, or orders in securities traded on the Exchange shall not be made in an increment smaller than: (i) \$0.01 if those bids, offers, or orders are priced equal to or greater than \$1.00 per share; or (ii) \$0.0001 if those bids, offers, or orders are priced less than \$1.00 per share; or (iii) any other increment established by the Commission for any security which has been granted an exemption from the minimum price increments requirements of SEC Rule 612(a) or 612(b) of Regulation NMS. The minimum price

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increment for orders for securities traded on the Exchange will be determined from time to time by the Board, consistent with any Commission rules or regulations adopted in this regard.

(b) Routing

Members may enter into agreements to use the routing services of MEMX Execution Services LLC, the affiliated broker-dealer of the Exchange, which will enable Members to route to other market centers the unexecuted portions of designated routable orders entered on the Exchange. In this capacity, MEMX Execution Services LLC will act as an agent of the Member. See Exhibit C and proposed Exchange Rule 2.11 for further details regarding the affiliated router. Members will have no obligation, however, to use the order routing functionality provided by the Exchange's broker-dealer affiliate. MEMX Execution Services will have access to Exchange services similar to those available to any other third party router.

3. *Procedures governing the execution, reporting, clearance and settlement of transactions in connection with the System.*

(a) Order Priority

Rule 11.9 describes the priority given to orders on the MEMX Book. As described in this Rule, orders of Users are ranked and maintained in the MEMX Book based on price-time priority. The highest-priced order to buy (lowest-priced order to sell) will have priority over all other orders to buy (sell) in all cases. Rule 11.9 describes how orders will be ranked based on time when orders to buy (sell) are entered into the System at the same price.

(b) Execution of Orders Submitted to Exchange's Order Book.

Subject to the restrictions under the proposed Exchange Rules or the Exchange Act and the rules and regulations thereunder (including those related to Regulation SHO, Regulation NMS and the Limit Up/Limit Down Plan), orders to buy and sell will be matched for execution in accordance with proposed Exchange Rule 11.10. An incoming order shall first attempt to be matched for execution against orders in the MEMX Book as described in proposed Exchange Rule 11.10, unless the User instructs the System to bypass the MEMX Book and route the order to an away Trading Center, in accordance with Exchange Rules. An incoming order to buy will be automatically executed to the extent that it is priced at an amount that equals or exceeds any order to sell in the MEMX Book and is executable. Such order to buy will be executed at the price(s) of the lowest order(s) to sell having priority in the MEMX Book. An incoming order to sell will be automatically executed to the extent that it is priced at an amount that equals or is less than any other order to buy in the MEMX Book and is executable. Such order to sell shall be executed at the price(s) of the highest order(s) to buy having priority in the MEMX Book. An order will be returned to the User, if based on market conditions, User instructions, applicable Exchange Rules and/or the Exchange Act and the rules and regulations thereunder, such order is not executable, cannot be routed to another Trading Center pursuant to Rule 11.11 or cannot be posted to the MEMX Book.

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(c) Clearly Erroneous Executions

Exchange Rule 11.15 (Clearing Erroneous Executions) permits the Exchange to address those instances in which transactions occurring on the Exchange involve obvious errors (“Clearly Erroneous Rule”). Under the Clearly Erroneous Rule, Members receiving an execution based on the entry of a buy or sell order that clearly was in error – in terms of price, quantity, or identification of the proper symbol for a security – will be permitted to request that the Exchange void or modify the transaction. Designated Exchange officials will review the transaction to determine whether, in fact, the transaction was clearly erroneous. If such officials determine that a trade is clearly erroneous, they shall void or modify the terms of the trade to achieve an equitable rectification of the error. A Member may appeal the initial decision by Exchange officials to the Clearly Erroneous Panel, which will be comprised of the CRO, or a designee of the CRO, and representatives from two (2) Members. An officer of the Exchange also will have the authority, on his or her own motion, to review and declare null and void, or otherwise modify the terms of, transactions arising out of the use of the Exchange’s order book during a period of disruption or malfunction, or in the event of extraordinary market conditions or other circumstances in which the nullification or modification of transactions may be necessary for the maintenance of a fair and orderly market or the protection of investors and the public interest.

(d) Opening Process

The Exchange will conduct an opening process pursuant to proposed Exchange Rule 11.7. Prior to the beginning of the Market Session, Users who wish to participate in the Opening Process may enter orders to buy or sell that include a TIF instruction of RHO (Regular Hours Only). These orders will queue in the System and are eligible for execution in the Opening Process. The Exchange will attempt to perform the Opening Process, in which the Exchange matches buy and sell orders that are executable at the midpoint of the NBBO, as described in proposed Exchange Rule 11.7.

(e) Trade Reporting

The Exchange intends to become a participant in the Consolidated Tape Association Plan (“CTA Plan”) and will report trades in Eligible Securities (as defined in the CTA Plan) pursuant to the terms of the plan. Similarly, the Exchange expects to join the Nasdaq-UTP Plan and will report trades in Nasdaq securities traded on the Exchange that have been admitted to unlisted traded privileges pursuant to the provisions of that plan.

(f) CAT NMS Plan

The Exchange intends to join the CAT NMS Plan. Each Participant of the CAT NMS Plan is required to enforce compliance by its Industry Members, as applicable, with the provisions of the CAT NMS Plan, by adopting a Compliance Rule applicable to their Industry Members. The rules set forth in proposed Exchange Rules 4.5 through 4.17 set forth the Compliance Rule to

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require Industry Members to comply with the provisions of the CAT NMS Plan. The Exchange Rules include twelve rules cover the following areas: (1) definition; (2) clock synchronization; (3) Industry Member data reporting; (4) customer information reporting; (5) Industry Member information reporting; (6) time stamps; (7) clock synchronization rule violation; (8) connectivity and data transmission; (9) development and testing; (10) recordkeeping; (11) timely, accurate and complete data; and (12) compliance dates.

(g) Clearance and Settlement of Exchange Trades

The Exchange will require each Member to be a member of a registered clearing agency or clear its transactions through a Member that is a member of a registered clearing agency.

4. *Proposed fees.*

In accordance with proposed Exchange Rule 15.1, the Exchange may prescribe such reasonable fees, and assessments or other charges as it may deem appropriate and as consistent with Section 6(b) of the Exchange Act. The Exchange intends to establish a Fee Schedule, which will be filed by the Exchange pursuant to Section 19 of the Exchange Act and Rule 19b-4 thereunder setting forth all applicable transaction and other fees. Actual fee amounts and types will not be determined until close to launch of Exchange operations because the fees and how they are applied will need to reflect the competitive landscape at that time.

The Exchange may also charge, among others, membership fees, application fees, market data fees, co-location fees, connectivity fees, and bandwidth fees. Exchange Members will be solely responsible for all telecommunications costs and all other expenses incurred in linking to, and maintaining links to, the Exchange. The Exchange may determine to revise or impose different fees upon its Members and Sponsoring Members from time to time.

5. *Procedures for ensuring compliance with System usage guidelines.*

The Exchange System contains embedded Member order entry and trade guidelines. All data representing a Member's order must comply with these guidelines. Members cannot override these embedded guidelines. With respect to technical standards, prior to allowing a new Member to begin trading, the Exchange and the Member will thoroughly test the Member's connectivity. In addition, the Member may enter orders in test securities to ensure compatibility with the Exchange's system protocol. A Member may begin trading only after the Exchange is satisfied that both the Member's hardware and software meet the Exchange's standards.

Members also must agree to maintain an adequate connection to the Exchange as defined from time-to-time by the Exchange that includes a connection of sufficient speed and equipment of minimum quality.

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6. *The hours of operation of the System, and the date on which applicant intends to commence operation of the System.*

The Exchange proposes to operate Monday to Friday from 6:00 a.m. Eastern Time to 8:00 p.m. Eastern Time, or during any other day or time approved by the Board of Directors of the Exchange.

The Exchange proposes to commence operations upon the Commission's approval of its Form 1 Application for Registration as a National Securities Exchange, and subject to approval of all necessary regulatory and National Market System plans.

7. *Attach a copy of the users' manual.*

Members will be provided with the Exchange's technical specifications, which will enable them to develop or purchase their own solution for interfacing with the Exchange. Members also may use third-party vendors to route orders to the Exchange via a front end or service bureau configuration. A User's Manual, which will be provided to all Members and prospective Members of the Exchange, will describe the Exchange's technical specifications and will provide Members, prospective Members and other users of the Exchange with additional information that the Exchange believes will be useful to such persons for trading on the Exchange. The User Manual is attached as Exhibit E-1.

8. *If applicant proposes to hold funds or securities on a regular basis, describe the controls that will be implemented to ensure safety of those funds or securities.*

The Exchange will not hold funds or securities of its Members.