



**SECURITIES AND EXCHANGE COMMISSION**  
**[Release No. 34-95936; File No. SR-MEMX-2022-26]**

**Self-Regulatory Organizations; MEMX LLC; Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees**

September 27, 2022.

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (the "Act"),<sup>1</sup> and Rule 19b-4 thereunder,<sup>2</sup> notice is hereby given that on September 15, 2022, MEMX LLC ("MEMX" or the "Exchange") filed with the Securities and Exchange Commission (the "Commission") the proposed rule change as described in Items I, II, and III below, which Items have been prepared by the Exchange. The Commission is publishing this notice to solicit comments on the proposed rule change from interested persons.

**I. Self-Regulatory Organization's Statement of the Terms of Substance of the Proposed Rule Change**

The Exchange is filing with the Commission a proposed rule change to amend the Exchange's fee schedule applicable to Members<sup>3</sup> and non-Members (the "Fee Schedule") pursuant to Exchange Rules 15.1(a) and (c). The Exchange proposes to implement the changes to the Fee Schedule pursuant to this proposal immediately. The text of the proposed rule change is provided in Exhibit 5.

**II. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change**

In its filing with the Commission, the Exchange included statements concerning the purpose of and basis for the proposed rule change and discussed any comments it received on the proposed rule change. The text of these statements may be examined at the places specified in Item IV below. The Exchange has prepared summaries, set forth in sections A, B, and C below,

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<sup>1</sup> 15 U.S.C. 78s(b)(1).

<sup>2</sup> 17 CFR 240.19b-4.

<sup>3</sup> See Exchange Rule 1.5(p).

of the most significant aspects of such statements.

A. Self-Regulatory Organization's Statement of the Purpose of, and Statutory Basis for, the Proposed Rule Change

1. Purpose

**Background**

The Exchange is re-filing its proposal to amend the Fee Schedule regarding fees the Exchange charges to Members and non-Members for physical connectivity to the Exchange and for application sessions (otherwise known as “logical ports”) that a Member utilizes in connection with their participation on the Exchange (together with physical connectivity, collectively referred to in this proposal as “connectivity services,” as described in greater detail below and in Exhibit 5). The Exchange is proposing to implement the proposed fees immediately.

The Exchange filed its Initial Proposal on December 30, 2021, and began charging fees for connectivity services for the first time in January of 2022. On February 28, 2022, the Commission suspended the Initial Proposal and asked for comments on several questions.<sup>4</sup> The Exchange then filed the Second Proposal, which was subsequently withdrawn and replaced with the Third Proposal. The Third Proposal was subsequently withdrawn and replaced with the Fourth Proposal. As set forth below, the Exchange believes that both the Initial Proposal, the Second Proposal, the Third Proposal, and the Fourth Proposal provided a great deal of transparency regarding the cost of providing connectivity services and anticipated revenue and that each of the prior proposals was consistent with the Act and associated guidance. The Exchange is re-filing this proposal promptly following the withdrawal of the Fourth Proposal with the intention of maintaining the existing fees for connectivity services while at the same

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<sup>4</sup> See Securities Exchange Act Release No. 94332 (February 28, 2022) (SR-MEMX-2021-22) (Suspension of and Order Instituting Proceedings to Determine Whether to Approve or Disapprove Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees) (the “OIP”).

time revising the proposal to focus on its Cost Analysis, as described below. The Exchange believes that this approach is appropriate and fair for competitive reasons as several other exchanges currently charge for similar services, as described below, and because others have followed a similar approach when adopting fees.<sup>5</sup>

As set forth in the Initial Proposal, the Second Proposal, the Third Proposal, the Fourth Proposal, and this filing, the Exchange does incur significant costs related to the provision of connectivity services and believes it should be permitted to continue charging for such services while also providing additional time for public comment on the level of detail contained in this proposal and other questions posed in the OIP. Finally, the Exchange does not believe that the ability to charge fees for connectivity services or the level of the Exchange's proposed fees are at issue, but rather, that the level of detail required to be included by the Exchange when adopting such fees is at issue. For these reasons, the Exchange believes it is appropriate to re-file this proposal and to continue charging for connectivity services.

In general, the Exchange believes that exchanges, in setting fees of all types, should meet very high standards of transparency to demonstrate why each new fee or fee increase meets the Exchange Act requirements that fees be reasonable, equitably allocated, not unfairly discriminatory, and not create an undue burden on competition among members and markets. In particular, the Exchange believes that each exchange should take extra care to be able to demonstrate that these fees are based on its costs and reasonable business needs.

In proposing to charge fees for connectivity services, the Exchange has sought to be especially diligent in assessing those fees in a transparent way against its own aggregate costs of

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<sup>5</sup> See, e.g., Securities Exchange Act Release No. 87875 (December 31, 2019), 85 FR 770 (January 7, 2020) (SR-MIAX-2019-51) (notice of filing and immediate effectiveness of changes to the Miami International Securities Exchange LLC, or "MIAX", fee schedule). The Exchange notes that the MIAX filing was the eighth filing by MIAX to adopt the fees proposed for certain connectivity services following multiple times of withdrawing and re-filing the proposal. The Exchange notes that MIAX charged the applicable fees throughout this period while working to develop a filing that met the new standards being applied to fee filings. See also Fee Guidance, *infra* note 12.

providing the related service, and also carefully and transparently assessing the impact on Members – both generally and in relation to other Members, i.e., to assure the fee will not create a financial burden on any participant and will not have an undue impact in particular on smaller Members and competition among Members in general. The Exchange believes that this level of diligence and transparency is called for by the requirements of Section 19(b)(1) under the Act,<sup>6</sup> and Rule 19b-4 thereunder,<sup>7</sup> with respect to the types of information self-regulatory organizations (“SROs”) should provide when filing fee changes, and Section 6(b) of the Act,<sup>8</sup> which requires, among other things, that exchange fees be reasonable and equitably allocated,<sup>9</sup> not designed to permit unfair discrimination,<sup>10</sup> and that they not impose a burden on competition not necessary or appropriate in furtherance of the purposes of the Act.<sup>11</sup> This rule change proposal addresses those requirements, and the analysis and data in each of the sections that follow are designed to clearly and comprehensively show how they are met.<sup>12</sup>

Prior to January 3, 2022, MEMX did not charge fees for connectivity to the Exchange, including fees for physical connections or application sessions for order entry purposes or receipt of drop copies. The objective of this approach was to eliminate any fee-based barriers to connectivity for Members when MEMX launched as a national securities exchange in 2020, and it was successful in achieving this objective in that a significant number of Members are directly

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<sup>6</sup> 15 U.S.C. 78s(b)(1).

<sup>7</sup> 17 CFR 240.19b-4.

<sup>8</sup> 15 U.S.C. 78f(b).

<sup>9</sup> 15 U.S.C. 78f(b)(4).

<sup>10</sup> 15 U.S.C. 78f(b)(5).

<sup>11</sup> 15 U.S.C. 78f(b)(8).

<sup>12</sup> In 2019, Commission staff published guidance suggesting the types of information that SROs may use to demonstrate that their fee filings comply with the standards of the Exchange Act (“Fee Guidance”). While MEMX understands that the Fee Guidance does not create new legal obligations on SROs, the Fee Guidance is consistent with MEMX’s view about the type and level of transparency that exchanges should meet to demonstrate compliance with their existing obligations when they seek to charge new fees. See Staff Guidance on SRO Rule Filings Relating to Fees (May 21, 2019) available at <https://www.sec.gov/tm/staff-guidancesro-rule-filings-fees>.

or indirectly connected to the Exchange.

As detailed below, MEMX recently calculated its aggregate monthly costs for providing physical connectivity to the Exchange at \$795,789 and its aggregate monthly costs for providing application sessions at \$347,936. Because MEMX offered all connectivity free of charge until January of this year, MEMX has borne 100% of all connectivity costs. In order to cover the aggregate costs of providing connectivity to its Users (both Members and non-Members<sup>13</sup>) going forward and to make a modest profit, as described below, the Exchange is proposing to modify its Fee Schedule, pursuant to MEMX Rules 15.1(a) and (c), to charge a fee of \$6,000 per month for each physical connection in the data center where the Exchange primarily operates under normal market conditions (“Primary Data Center”) and a fee of \$3,000 per month for each physical connection in the Exchange’s geographically diverse data center, which is operated for backup and disaster recovery purposes (“Secondary Data Center”), each as further described below. The Exchange also proposes to modify its Fee Schedule, pursuant to MEMX Rules 15.1(a) and (c), to charge a fee of \$450 per month for each application session used for order entry (“Order Entry Port”) and application session for receipt of drop copies (“Drop Copy Port”) in the Exchange’s Primary Data Center, as further described below.<sup>14</sup>

### **Cost Analysis**

#### ***Background on Cost Analysis***

In October 2021, MEMX completed a study of its aggregate costs to produce market data

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<sup>13</sup> Types of market participants that obtain connectivity services from the Exchange but are not Members include service bureaus and extranets. Service bureaus offer technology-based services to other companies for a fee, including order entry services to Members, and thus, may access application sessions on behalf of one or more Members. Extranets offer physical connectivity services to Members and non-Members.

<sup>14</sup> As proposed, fees for connectivity services would be assessed based on each active connectivity service product at the close of business on the first day of each month. If a product is cancelled by a Member’s submission of a written request or via the MEMX User Portal prior to such fee being assessed then the Member will not be obligated to pay the applicable product fee. MEMX will not return pro-rated fees even if a product is not used for an entire month.

and connectivity (the “Cost Analysis”). The Cost Analysis required a detailed analysis of MEMX’s aggregate baseline costs, including a determination and allocation of costs for core services provided by the Exchange – transaction execution, market data, membership services, physical connectivity, and application sessions (which provide order entry, cancellation and modification functionality, risk functionality, ability to receive drop copies, and other functionality). MEMX separately divided its costs between those costs necessary to deliver each of these core services, including infrastructure, software, human resources (i.e., personnel), and certain general and administrative expenses (“cost drivers”). Next, MEMX adopted an allocation methodology with various principles to guide how much of a particular cost should be allocated to each core service. For instance, fixed costs that are not driven by client activity (e.g., message rates), such as data center costs, were allocated more heavily to the provision of physical connectivity (75%), with smaller allocations to logical ports (2.6%), and the remainder to the provision of transaction execution and market data services (22.4%). In contrast, costs that are driven largely by client activity (e.g., message rates), were not allocated to physical connectivity at all but were allocated primarily to the provision of transaction execution and market data services (90%) with a smaller allocation to application sessions (10%). The allocation methodology was decided through conversations with senior management familiar with each area of the Exchange’s operations. After adopting this allocation methodology, the Exchange then applied an estimated allocation of each cost driver to each core service, resulting in the cost allocations described below.

By allocating segmented costs to each core service, MEMX was able to estimate by core service the potential margin it might earn based on different fee models. The Exchange notes that as a non-listing venue it has four primary sources of revenue that it can potentially use to fund its operations: transaction fees, fees for connectivity services, membership and regulatory fees, and market data fees. Accordingly, the Exchange must cover its expenses from these four primary sources of revenue. The Exchange also notes that as a general matter each of these

sources of revenue is based on services that are interdependent. For instance, the Exchange's system for executing transactions is dependent on physical hardware and connectivity, only Members and parties that they sponsor to participate directly on the Exchange may submit orders to the Exchange, many Members (but not all) consume market data from the Exchange in order to trade on the Exchange, and the Exchange consumes market data from external sources in order to comply with regulatory obligations. Accordingly, given this interdependence, the allocation of costs to each service or revenue source required judgment of the Exchange and was weighted based on estimates of the Exchange that the Exchange believes are reasonable, as set forth below.

Through the Exchange's extensive Cost Analysis, the Exchange analyzed every expense item in the Exchange's general expense ledger to determine whether each such expense relates to the provision of connectivity services, and, if such expense did so relate, what portion (or percentage) of such expense actually supports the provision of connectivity services, and thus bears a relationship that is, "in nature and closeness," directly related to network connectivity services. In turn, the Exchange allocated certain costs more to physical connectivity and others to applications, while certain costs were only allocated to such services at a very low percentage or not at all, using consistent allocation methodologies as described above. Based on this analysis, MEMX estimates that the cost drivers to provide connectivity services, including both physical connections and application sessions, result in an aggregate monthly cost of \$1,143,715, as further detailed below.

#### ***Costs Related to Offering Physical Connectivity***

The following chart details the individual line-item costs considered by MEMX to be related to offering physical connectivity as well as the percentage of the Exchange's overall costs such costs represent for such area (e.g., as set forth below, the Exchange allocated approximately 13.8% of its overall Human Resources cost to offering physical connectivity).

| <b>COSTS DRIVERS</b> | <b>COSTS</b> | <b>% OF ALL</b> |
|----------------------|--------------|-----------------|
| Human Resources      | \$262,129    | 13.8%           |

|                                                       |                  |              |
|-------------------------------------------------------|------------------|--------------|
| Connectivity (external fees, cabling, switches, etc.) | \$162,000        | 75.0%        |
| Data Center                                           | \$219,000        | 75.0%        |
| External Market Data                                  | n/a              | n/a          |
| Hardware and Software Licenses                        | \$4,507          | 1.2%         |
| Monthly Depreciation                                  | \$99,328         | 18.5%        |
| Allocated Shared Expenses                             | \$48,826         | 10.0%        |
| <b>TOTAL</b>                                          | <b>\$795,789</b> | <b>20.1%</b> |

Below are additional details regarding each of the line-item costs considered by MEMX to be related to offering physical connectivity.

### *Human Resources*

For personnel costs (Human Resources), MEMX calculated an allocation of employee time for employees whose functions include providing and maintaining physical connectivity and performance thereof (primarily the MEMX network infrastructure team, which spends most of their time performing functions necessary to provide physical connectivity) and for which the Exchange allocated 75% of each employee's time. The Exchange also allocated Human Resources costs to provide physical connectivity to a limited subset of personnel with ancillary functions related to establishing and maintaining such connectivity (such as information security and finance personnel), for which the Exchange allocated cost on an employee-by-employee basis (i.e., only including those personnel who do support functions related to providing physical connectivity) and then applied a smaller allocation to such employees (less than 20%). The Exchange notes that it has fewer than seventy (70) employees and each department leader has direct knowledge of the time spent by those spent by each employee with respect to the various tasks necessary to operate the Exchange. The estimates of Human Resources cost were therefore determined by consulting with such department leaders, determining which employees are involved in tasks related to providing physical connectivity, and confirming that the proposed allocations were reasonable based on an understanding of the percentage of their time such employees devote to tasks related to providing physical connectivity. The Exchange notes that senior level executives were only allocated Human Resources costs to the extent the Exchange believed they are involved in overseeing tasks related to providing physical connectivity. The



Human Resources cost was calculated using a blended rate of compensation reflecting salary, equity and bonus compensation, benefits, payroll taxes, and 401(k) matching contributions.

#### *Connectivity*

The Connectivity cost includes external fees paid to connect to other exchanges and third parties, cabling and switches required to operate the Exchange. The Exchange notes that it previously labeled this line item as “Infrastructure and Connectivity” but has eliminated the reference to Infrastructure because several other line-item costs could be considered infrastructure given the generality of that term. The Connectivity line-item is more narrowly focused on technology used to complete connections to the Exchange and to connect to external markets. The Exchange notes that its connectivity to external markets is required in order to receive market data to run the Exchange’s matching engine and basic operations compliant with existing regulations, primarily Regulation NMS.

#### *Data Center*

Data Center costs includes an allocation of the costs the Exchange incurs to provide physical connectivity in the third-party data centers where it maintains its equipment (such as dedicated space, security services, cooling and power). The Exchange notes that it does not own the Primary Data Center or the Secondary Data Center, but instead, leases space in data centers operated by third parties. The Exchange has allocated a high percentage of the Data Center cost (75%) to physical connectivity because the third-party data centers and the Exchange’s physical equipment contained therein is the most direct cost in providing physical access to the Exchange. In other words, for the Exchange to operate in a dedicated space with connectivity of participants to a physical trading platform, the data centers are a very tangible cost, and in turn, if the Exchange did not maintain such a presence then physical connectivity would be of no value to market participants.

#### *External Market Data*

External Market Data includes fees paid to third parties, including other exchanges, to

receive and consume market data from other markets. The Exchange notes that it did not allocate any External Market Data fees to the provision of physical connectivity as market data is not related to such services.

#### *Hardware and Software Licenses*

Hardware and Software Licenses includes hardware and software licenses used to operate and monitor physical assets necessary to offer physical connectivity to the Exchange.

#### *Monthly Depreciation*

All physical assets and software, which also includes assets used for testing and monitoring of Exchange infrastructure, were valued at cost, depreciated or leased over periods ranging from three to five years. Thus, the depreciation cost primarily relates to servers necessary to operate the Exchange, some of which are owned by the Exchange and some of which are leased by the Exchange in order to allow efficient periodic technology refreshes. As noted above, the Exchange allocated 18.5% of all depreciation costs to providing physical connectivity. The Exchange notes, however, that it did not allocate depreciation costs for any depreciated software necessary to operate the Exchange to physical connectivity, as such software does not impact the provision of physical connectivity.

#### *Allocated Shared Expenses*

Finally, a limited portion of general shared expenses was allocated to overall physical connectivity costs as without these general shared costs the Exchange would not be able to operate in the manner that it does and provide physical connectivity. The costs included in general shared expenses include general expenses of the Exchange, including office space and office expenses (e.g., occupancy and overhead expenses), utilities, recruiting and training, marketing and advertising costs, professional fees for legal, tax and accounting services (including external and internal audit expenses), and telecommunications costs. The Exchange notes that the cost of paying directors to serve on its Board of Directors is also included in the Exchange's general shared expenses, and thus a portion of such overall cost amounting to 10%

of the overall cost for directors was allocated to providing physical connectivity. The Exchange notes that the 10% allocation of general shared expenses for physical connectivity is lower than that allocated to general shared expenses for application sessions based on its allocation methodology that weighted costs attributable to each Core Service based on an understanding of each area. While physical connectivity has several areas where certain tangible costs are heavily weighted towards providing such service (e.g., Data Centers, as described above), physical connectivity does not require as many broad or indirect resources as other Core Services. The total monthly cost of \$795,789 was divided by the number of physical connections the Exchange maintained at the time that proposed pricing was determined (143), to arrive at a cost of approximately \$5,565 per month, per physical connection.

### ***Costs Related to Offering Application Sessions***

The following chart details the individual line-item costs considered by MEMX to be related to offering application sessions as well as the percentage of the Exchange's overall costs such costs represent for such area (e.g., as set forth below, the Exchange allocated approximately 7.7% of its overall Human Resources cost to offering application sessions).

| <b>COSTS DRIVERS</b>                                  | <b>COSTS</b>     | <b>% OF ALL</b> |
|-------------------------------------------------------|------------------|-----------------|
| Human Resources                                       | \$147,029        | 7.7%            |
| Connectivity (external fees, cabling, switches, etc.) | \$5,520          | 2.6%            |
| Data Center                                           | \$7,462          | 2.6%            |
| External Market Data                                  | \$10,734         | 7.5%            |
| Hardware and Software Licenses                        | \$37,771         | 10.1%           |
| Monthly Depreciation                                  | \$44,843         | 8.3%            |
| Allocated Shared Expenses                             | \$94,567         | 19.4%           |
| <b>TOTAL</b>                                          | <b>\$347,926</b> | <b>8.8%</b>     |

### ***Human Resources***

With respect to application sessions, MEMX calculated Human Resources cost by taking an allocation of employee time for employees whose functions include providing application sessions and maintaining performance thereof (including a broader range of employees such as

technical operations personnel, market operations personnel, and software engineering personnel) as well as a limited subset of personnel with ancillary functions related to maintaining such connectivity (such as sales, membership, and finance personnel). The estimates of Human Resources cost were again determined by consulting with department leaders, determining which employees are involved in tasks related to providing application sessions and maintaining performance thereof, and confirming that the proposed allocations were reasonable based on an understanding of the percentage of their time such employees devote to tasks related to providing application sessions and maintaining performance thereof. The Exchange notes that senior level executives were only allocated Human Resources costs to the extent the Exchange believed they are involved in overseeing tasks related to providing application sessions and maintaining performance thereof. The Human Resources cost was again calculated using a blended rate of compensation reflecting salary, equity and bonus compensation, benefits, payroll taxes, and 401(k) matching contributions.

#### *Connectivity*

The Connectivity cost includes external fees paid to connect to other exchanges, cabling and switches, as described above.

#### *Data Center*

Data Center costs includes an allocation of the costs the Exchange incurs to provide physical connectivity in the third-party data centers where it maintains its equipment as well as related costs (the Exchange does not own the Primary Data Center or the Secondary Data Center, but instead, leases space in data centers operated by third parties).

#### *External Market Data*

External Market Data includes fees paid to third parties, including other exchanges, to receive and consume market data from other markets. The Exchange allocated a small portion of External Market Data fees (7.5%) to the provision of application sessions as such market data is necessary to offer certain services related to such sessions, such as validating orders on entry

against the national best bid and national best offer and checking for other conditions (e.g., whether a symbol is halted or subject to a short sale circuit breaker). Thus, as market data from other Exchanges is consumed at the application session level in order to validate orders before additional processing occurs with respect to such orders, the Exchange believes it is reasonable to allocate a small amount of such costs to application sessions.

#### *Hardware and Software Licenses*

Hardware and Software Licenses includes hardware and software licenses used to monitor the health of the order entry services provided by the Exchange.

#### *Monthly Depreciation*

All physical assets and software, which also includes assets used for testing and monitoring of order entry infrastructure, were valued at cost, depreciated or leased over periods ranging from three to five years. Thus, the depreciation cost primarily relates to servers necessary to operate the Exchange, some of which is owned by the Exchange and some of which is leased by the Exchange in order to allow efficient periodic technology refreshes. The Exchange allocated 8.3% of all depreciation costs to providing application sessions. In contrast to physical connectivity, described above, the Exchange did allocate depreciation costs for depreciated software necessary to operate the Exchange to application sessions because such software is related to the provision of such connectivity.

#### *Allocated Shared Expenses*

Finally, a limited portion of general shared expenses was allocated to overall application session costs as without these general shared costs the Exchange would not be able to operate in the manner that it does and provide application sessions. The costs included in general shared expenses include general expenses of the Exchange, including office space and office expenses (e.g., occupancy and overhead expenses), utilities, recruiting and training, marketing and advertising costs, professional fees for legal, tax and accounting services (including external and internal audit expenses), and telecommunications costs. The Exchange again notes that the cost

of paying directors to serve on its Board of Directors is included in the calculation of Allocated Shared Expenses, and thus a portion of such overall cost amounting to less than 20% of the overall cost for directors was allocated to providing application sessions. The Exchange notes that the 19.4% allocation of general shared expenses for application sessions is higher than that allocated to general shared expenses for physical connectivity based on its allocation methodology that weighted costs attributable to each Core Service based on an understanding of each area. While physical connectivity has several areas where certain tangible costs are heavily weighted towards providing such service (e.g., Data Centers, as described above), application sessions require a broader level of support from Exchange personnel in different areas, which in turn leads to a broader general level of cost to the Exchange. The total monthly cost of \$347,926 was divided by the number of application sessions the Exchange maintained at the time that proposed pricing was determined (835), to arrive at a cost of approximately \$417 per month, per application session.

#### ***Cost Analysis – Additional Discussion***

In conducting its Cost Analysis, the Exchange did not allocate any of its expenses in full to any core services (including physical connectivity or application sessions) and did not double-count any expenses. Instead, as described above, the Exchange allocated applicable cost drivers across its core services and used the same Cost Analysis to form the basis of this proposal and the filing it recently submitted proposing fees for proprietary data feeds offered by the Exchange. For instance, in calculating the Human Resources expenses to be allocated to physical connections, the Exchange has a team of employees dedicated to network infrastructure and with respect to such employees the Exchange allocated network infrastructure personnel with a high percentage of the cost of such personnel (75%) given their focus on functions necessary to provide physical connections. The salaries of those same personnel were allocated only 2.5% to application sessions and the remaining 22.5% was allocated to transactions and market data. The Exchange did not allocate any other Human Resources expense for providing physical

connections to any other employee group outside of a smaller allocation (19%) of the cost associated with certain specified personnel who work closely with and support network infrastructure personnel. In contrast, the Exchange allocated much smaller percentages of costs (11% or less) across a wider range of personnel groups in order to allocate Human Resources costs to providing application sessions. This is because a much wider range of personnel are involved in functions necessary to offer, monitor and maintain application sessions but the tasks necessary to do so are not a primary or full-time function.

In total, the Exchange allocated 13.8% of its personnel costs to providing physical connections and 7.7% of its personnel costs to providing application sessions, for a total allocation of 21.5% Human Resources expense to provide connectivity services. In turn, the Exchange allocated the remaining 78.5% of its Human Resources expense to membership (less than 1%) and transactions and market data (77.5%). Thus, again, the Exchange's allocations of cost across core services were based on real costs of operating the Exchange and were not double-counted across the core services or their associated revenue streams.

As another example, the Exchange allocated depreciation expense to all core services, including physical connections and application sessions, but in different amounts. The Exchange believes it is reasonable to allocate the identified portion of such expense because such expense includes the actual cost of the computer equipment, such as dedicated servers, computers, laptops, monitors, information security appliances and storage, and network switching infrastructure equipment, including switches and taps that were purchased to operate and support the network. Without this equipment, the Exchange would not be able to operate the network and provide connectivity services to its Members and non-Members and their customers. However, the Exchange did not allocate all of the depreciation and amortization expense toward the cost of providing connectivity services, but instead allocated approximately 27% of the Exchange's overall depreciation and amortization expense to connectivity services (18.5% attributed to physical connections and 8.3% to application sessions). The Exchange allocated the remaining

depreciation and amortization expense (approximately 73%) toward the cost of providing transaction services and market data.

Looking at the Exchange's operations holistically, the total monthly costs to the Exchange for offering core services is \$3,954,537. Based on the initial four months of billing for connectivity services, the Exchange expects to collect its original estimate of \$1,233,750 on a monthly basis for such services.<sup>15</sup> Incorporating this amount into the Exchange's overall projected revenue, including projections related to market data fees adopted earlier this year, the Exchange anticipates monthly revenue ranging from \$4,296,950 to \$4,546,950 from all sources (i.e., connectivity fees and membership fees that were introduced in January 2022, transaction fees, and revenue from market data, both through the fees adopted in April 2022 and through the revenue received from the SIPs). As such, applying the Exchange's holistic Cost Analysis to a holistic view of anticipated revenues, the Exchange would earn approximately 8.5% to 15% margin on its operations as a whole. The Exchange believes that this amount is reasonable.

The Exchange notes that its revenue estimates are based on projections across all potential revenue streams and will only be realized to the extent such revenue streams actually produce the revenue estimated. As a new entrant to the hyper-competitive exchange environment, and an exchange focused on driving competition, the Exchange does not yet know whether such expectations will be realized. For instance, in order to generate the revenue expected from connectivity, the Exchange will have to be successful in retaining existing clients that wish to maintain physical connectivity and/or application sessions or in obtaining new clients that will purchase such services. Similarly, the Exchange will have to be successful in

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<sup>15</sup> The Exchange notes that it has charged connectivity services for four months and so far the average amount expected is very close to the estimated revenue provided in the Initial Proposal. Specifically, the Exchange has earned an estimated \$1,254,000 (\$20,250 more than projected) for connectivity services on an average basis over January through July. The Exchange believes this difference is immaterial for purposes of this proposal and thus, will continue to use the original estimated revenue of \$1,233,750 for purposes of this proposal.



retaining a positive net capture on transaction fees in order to realize the anticipated revenue from transaction pricing.

The Exchange notes that the Cost Analysis was based on the Exchange's first year of operations and projections for the next year (which is currently underway). As such, the Exchange believes that its costs will remain relatively similar in future years. It is possible however that such costs will either decrease or increase. To the extent the Exchange sees growth in use of connectivity services it will receive additional revenue to offset future cost increases. However, if use of connectivity services is static or decreases, the Exchange might not realize the revenue that it anticipates or needs in order to cover applicable costs. Accordingly, the Exchange is committing to conduct a one-year review after implementation of these fees. The Exchange expects that it may propose to adjust fees at that time, to increase fees in the event that revenues fail to cover costs and a reasonable mark-up of such costs. Similarly, the Exchange would propose to decrease fees in the event that revenue materially exceeds our current projections. In addition, the Exchange will periodically conduct a review to inform its decision making on whether a fee change is appropriate (e.g., to monitor for costs increasing/decreasing or subscribers increasing/decreasing, etc. in ways that suggest the then-current fees are becoming dislocated from the prior cost-based analysis) and would propose to increase fees in the event that revenues fail to cover its costs and a reasonable mark-up, or decrease fees in the event that revenue or the mark-up materially exceeds our current projections. In the event that the Exchange determines to propose a fee change, the results of a timely review, including an updated cost estimate, will be included in the rule filing proposing the fee change. More generally, we believe that it is appropriate for an exchange to refresh and update information about its relevant costs and revenues in seeking any future changes to fees, and the Exchange commits to do so.

### **Proposed Fees**

#### ***Physical Connectivity Fees***

MEMX offers its Members the ability to connect to the Exchange in order to transmit orders to and receive information from the Exchange. Members can also choose to connect to MEMX indirectly through physical connectivity maintained by a third-party extranet. Extranet physical connections may provide access to one or multiple Members on a single connection. Users of MEMX physical connectivity services (both Members and non-Members<sup>16</sup>) seeking to establish one or more connections with the Exchange submit a request to the Exchange via the MEMX User Portal or directly to Exchange personnel. Upon receipt of the completed instructions, MEMX establishes the physical connections requested by the User. The number of physical connections assigned to each User as of August 31, 2022, ranges from one to ten, depending on the scope and scale of the Member's trading activity on the Exchange as determined by the Member, including the Member's determination of the need for redundant connectivity. The Exchange notes that 44% of its Members do not maintain a physical connection directly with the Exchange in the Primary Data Center (though many such Members have connectivity through a third-party provider) and another 44% have either one or two physical ports to connect to the Exchange in the Primary Data Center. Thus, only a limited number of Members, 12%, maintain three or more physical ports to connect to the Exchange in the Primary Data Center.

As described above, in order to cover the aggregate costs of providing physical connectivity to Users and make a modest profit, as described below, the Exchange is proposing to charge a fee of \$6,000 per month for each physical connection in the Primary Data Center and a fee of \$3,000 per month for each physical connection in the Secondary Data Center. There is no requirement that any Member maintain a specific number of physical connections and a Member may choose to maintain as many or as few of such connections as each Member deems appropriate. The Exchange notes, however, that pursuant to Rule 2.4 (Mandatory Participation

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<sup>16</sup> See supra note 13.

in Testing of Backup Systems), the Exchange does require a small number of Members to connect and participate in functional and performance testing as announced by the Exchange, which occurs at least once every 12 months. Specifically, 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 (i.e., such Members must connect to the Secondary Data Center). The Exchange notes that Members that have been designated are still able to use third-party providers of connectivity to access the Exchange at its Secondary Data Center, and that one such designated Member does use a third-party provider instead of connecting directly to the Secondary Data Center through connectivity provided by the Exchange.<sup>17</sup> Nonetheless, because some Members are required to connect to the Secondary Data Center pursuant to Rule 2.4 and to encourage Exchange Members to connect to the Secondary Data Center generally, the Exchange has proposed to charge one-half of the fee for a physical connection in the Primary Data Center. The Exchange notes that its costs related to operating the Secondary Data Center were not separately calculated for purposes of this proposal, but instead, all costs related to providing physical connections were considered in aggregate. The Exchange believes this is appropriate because had the Exchange calculated such costs separately and then determined the fee per physical connection that would be necessary for the Exchange to cover its costs for operating the Secondary Data Center, the costs would likely be much higher than those proposed for connectivity at the Primary Data Center because Members maintain significantly fewer connections at the Secondary Data Center. The Exchange believes that charging a higher fee for physical connections at the Secondary Data Center would be inconsistent with its objective of encouraging Members to connect at such data center and is inconsistent with the fees charged by other exchanges, which also provide connectivity for disaster recovery purposes

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<sup>17</sup> The Exchange also notes that a second designated Member that is required to participate in mandatory testing with the Exchange for the first time this year has not yet connected to the Exchange in the Secondary Data Center and has indicated that it is likely to use a third-party provider.

at a discounted rate.<sup>18</sup>

The proposed fee will not apply differently based upon the size or type of the market participant, but rather based upon the number of physical connections a User requests, based upon factors deemed relevant by each User (either a Member, service bureau or extranet). The Exchange believes these factors include the costs to maintain connectivity, business model and choices Members make in how to participate on the Exchange, as further described below.

The proposed fee of \$6,000 per month for physical connections at the Primary Data Center is designed to permit the Exchange to cover the costs allocated to providing connectivity services with a modest markup (approximately 8%), which would also help fund future expenditures (increased costs, improvements, etc.). The Exchange believes it is appropriate to charge fees that represent a reasonable markup over cost given the other factors discussed above and the need for the Exchange to maintain a highly performant and stable platform to allow Members to transact with determinism. The Exchange also reiterates that the Exchange did not charge any fees for connectivity services prior to January 2022, and its allocation of costs to physical connections was part of a holistic allocation that also allocated costs to other core services without double-counting any expenses.

As noted above, the Exchange proposes a discounted rate of \$3,000 per month for physical connections at its Secondary Data Center. The Exchange has proposed this discounted rate for Secondary Data Center connectivity in order to encourage Members to establish and maintain such connections. Also, as noted above, a small number of Members are required pursuant to Rule 2.4 to connect and participate in testing of the Exchange's backup systems, and the Exchange believes it is appropriate to provide a discounted rate for physical connections at the Secondary Data Center given this requirement. The Exchange notes that this rate is well below the cost of providing such services and the Exchange will operate its network and systems

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<sup>18</sup> See, e.g., the BZX equities fee schedule, available at: [https://markets.cboe.com/us/equities/membership/fee\\_schedule/bzx/](https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/).

at the Secondary Data Center without recouping the full amount of such cost through connectivity services.

The proposed fee for physical connections is effective on filing and will become operative immediately.

### ***Application Session Fees***

Similar to other exchanges, MEMX offers its Members application sessions, also known as logical ports, for order entry and receipt of trade execution reports and order messages. Members can also choose to connect to MEMX indirectly through a session maintained by a third-party service bureau. Service bureau sessions may provide access to one or multiple Members on a single session. Users of MEMX connectivity services (both Members and non-Members<sup>19</sup>) seeking to establish one or more application sessions with the Exchange submit a request to the Exchange via the MEMX User Portal or directly to Exchange personnel. Upon receipt of the completed instructions, MEMX assigns the User the number of sessions requested by the User. The number of sessions assigned to each User as of August 31, 2022, ranges from one to more than 100, depending on the scope and scale of the Member's trading activity on the Exchange (either through a direct connection or through a service bureau) as determined by the Member. For example, by using multiple sessions, Members can segregate order flow from different internal desks, business lines, or customers. The Exchange does not impose any minimum or maximum requirements for how many application sessions a Member or service bureau can maintain, and it is not proposing to impose any minimum or maximum session requirements for its Members or their service bureaus.

As described above, in order to cover the aggregate costs of providing application sessions to Users and to make a modest profit, as described below, the Exchange is proposing to charge a fee of \$450 per month for each Order Entry Port and Drop Copy Port in the Primary

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<sup>19</sup> See supra note 13.

Data Center. The Exchange notes that it does not propose to charge for: (1) Order Entry Ports or Drop Copy Ports in the Secondary Data Center, or (2) any Test Facility Ports or MEMOIR Gap Fill Ports. The Exchange has proposed to provide Order Entry Ports and Drop Copy Ports in the Secondary Data Center free of charge in order to encourage Members to connect to the Exchange's backup trading systems. Similarly, because the Exchange wishes to encourage Members to conduct appropriate testing of their use of the Exchange, the Exchange has not proposed to charge for Test Facility Ports. With respect to MEMOIR Gap Fill ports, such ports are exclusively used in order to receive information when a market data recipient has temporarily lost its view of MEMX market data. The Exchange has not proposed charging for such ports because the costs of providing and maintaining such ports is more directly related to producing market data.

The proposed fee of \$450 per month for each Order Entry Port and Drop Copy Port in the Primary Data Center is designed to permit the Exchange to cover the costs allocated to providing application sessions with a modest markup (approximately 8%), which would also help fund future expenditures (increased costs, improvements, etc.). The Exchange also reiterates that the Exchange did not charge any fees for connectivity services prior to January 2022, and its allocation of costs to application sessions was part of a holistic allocation that also allocated costs to other core services without double-counting any expenses.

The proposed fee is also designed to encourage Users to be efficient with their application session usage, thereby resulting in a corresponding increase in the efficiency that the Exchange would be able to realize in managing its aggregate costs for providing connectivity services. There is no requirement that any Member maintain a specific number of application sessions and a Member may choose to maintain as many or as few of such ports as each Member deems appropriate. The Exchange has designed its platform such that Order Entry Ports can handle a significant amount of message traffic (i.e., over 50,000 orders per second), and has no application flow control or order throttling. In contrast, other exchanges maintain certain

thresholds that limit the amount of message traffic that a single logical port can handle.<sup>20</sup> As such, while several Members maintain a relatively high number of ports because that is consistent with their usage on other exchanges and is preferable for their own reasons, the Exchange believes that it has designed a system capable of allowing such Members to significantly reduce the number of application sessions maintained.

The proposed fee will not apply differently based upon the size or type of the market participant, but rather based upon the number of application sessions a User requests, based upon factors deemed relevant by each User (either a Member or service bureau on behalf of a Member). The Exchange believes these factors include the costs to maintain connectivity and choices Members make in how to segment or allocate their order flow.<sup>21</sup>

The proposed fee for application sessions is effective on filing and will become operative immediately.

#### ***Proposed Fees - Additional Discussion***

As discussed above, the proposed fees for connectivity services do not by design apply differently to different types or sizes of Members. As discussed in more detail in the Statutory Basis section, the Exchange believes that the likelihood of higher fees for certain Members subscribing to connectivity services usage than others is not unfairly discriminatory because it is based on objective differences in usage of connectivity services among different Members. The

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<sup>20</sup> See, e.g., Cboe US Equities BOE Specification, *available at*: [https://cdn.cboe.com/resources/membership/Cboe\\_US\\_Equities\\_BOE\\_Specification.pdf](https://cdn.cboe.com/resources/membership/Cboe_US_Equities_BOE_Specification.pdf) (describing a 5,000 message per second Port Order Rate Threshold on Cboe BOE ports).

<sup>21</sup> The Exchange understands that some Members (or service bureaus) may also request more Order Entry Ports to enable the ability to send a greater number of simultaneous order messages to the Exchange by spreading orders over more Order Entry Ports, thereby increasing throughput (i.e., the potential for more orders to be processed in the same amount of time). The degree to which this usage of Order Entry Ports provides any throughput advantage is based on how a particular Member sends order messages to MEMX, however the Exchange notes that its architecture reduces the impact or necessity of such a strategy. All Order Entry Ports on MEMX provide the same throughput, and as noted above, the throughput is likely adequate even for a Member sending a significant amount of volume at a fast pace, and is not artificially throttled or limited in any way by the Exchange.

Exchange's incremental aggregate costs for all connectivity services are disproportionately related to Members with higher message traffic and/or Members with more complicated connections established with the Exchange, as such Members: (1) consume the most bandwidth and resources of the network; (2) transact the vast majority of the volume on the Exchange; and (3) require the high-touch network support services provided by the Exchange and its staff, including network monitoring, reporting and support services, resulting in a much higher cost to the Exchange to provide such connectivity services. For these reasons, MEMX believes it is not unfairly discriminatory for the Members with higher message traffic and/or Members with more complicated connections to pay a higher share of the total connectivity services fees. While Members with a business model that results in higher relative inbound message activity or more complicated connections are projected to pay higher fees, the level of such fees is based solely on the number of physical connections and/or application sessions deemed necessary by the Member and not on the Member's business model or type of Member. The Exchange notes that the correlation between message traffic and usage of connectivity services is not completely aligned because Members individually determine how many physical connections and application sessions to request, and Members may make different decisions on the appropriate ways based on facts unique to their individual businesses. Based on the Exchange's architecture, as described above, the Exchange believes that a Member even with high message traffic would be able to conduct business on the Exchange with a relatively small connectivity services footprint.

Because the Exchange has already adopted fees for connectivity services, the Exchange has initial results of the impact such fees have had on Member and non-Member usage of connectivity services. Since the fees went into effect as set forth in the Initial Proposal, nine (9) customers with physical connectivity to the Exchange have canceled one or more of their physical connections. These cancellations resulted in an approximate 6% drop in the physical



connectivity offered by the Exchange prior to the Exchange charging for such connectivity.<sup>22</sup> In each instance, the customer told the Exchange that its reason for cancelling its connectivity was the imposition of fees. Of these customers, two (2) customers canceled services entirely, three (3) maintained at least one physical connection provided directly by the Exchange, and the remaining four (4) customers migrated to alternative sources of connectivity through a third-party provider. As such, some market participants (one market data provider and one extranet) determined that they no longer wanted to connect to the Exchange directly or through a third party as it was not necessary for their business and their initial connection was only worthwhile so long as services were provided free of charge. Other market participants (one market data provider, one extranet and one Member) determined that they still wished to be directly connected to the Exchange but did not need as many connections. Finally, some market participants (one market data provider, one service bureau and two trading participants) determined that there was a more affordable alternative through a third-party provider of connectivity services. As a general matter, the customers that discontinued use of physical connectivity or transitioned to a third-party provider of connectivity services were either connected purely to consume market data for their own purposes or distribution to others, were themselves extranets or service bureaus providing alternatives to the Exchange's connectivity services, or were smaller trading firms that elected not to participate on the Exchange directly and likely connected initially due to the fact that there were no fees to connect.

Additionally, since the Exchange began charging for application sessions, five (5) customers have canceled a total of thirty (30) application sessions (approximately 3.5% of all customer application sessions) due to the fees adopted by the Exchange.<sup>23</sup> As a general matter,

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<sup>22</sup> The Exchange notes that despite these cancellations, the Exchange has since had existing customers and new customers order physical connectivity that has resulted in the Exchange maintaining nearly the same amount of physical connections for customers as it did prior to the imposition of fees.

<sup>23</sup> The Exchange notes that, as was the case with respect to physical connectivity, the

these customers determined that the number of application sessions that they maintained was not necessary in order to participate on the Exchange.

Finally, the fees for connectivity services will help to encourage connectivity services usage in a way that aligns with the Exchange's regulatory obligations. As a national securities exchange, the Exchange is subject to Regulation Systems Compliance and Integrity ("Reg SCI").<sup>24</sup> Reg SCI Rule 1001(a) requires that the Exchange establish, maintain, and enforce written policies and procedures reasonably designed to ensure (among other things) that its Reg SCI systems have levels of capacity adequate to maintain the Exchange's operational capability and promote the maintenance of fair and orderly markets.<sup>25</sup> By encouraging Users to be efficient with their usage of connectivity services, the proposed fee will support the Exchange's Reg SCI obligations in this regard by ensuring that unused application sessions are available to be allocated based on individual User needs and as the Exchange's overall order and trade volumes increase. As noted above, based on early results, the adoption of fees has led to certain firms reducing the number of application sessions maintained now that such sessions are no longer provided free of charge. Additionally, because the Exchange will charge a lower rate for a physical connection to the Secondary Data Center and will not charge any fees for application sessions at the Secondary Data Center or its Test Facility, the proposed fee structure will further support the Exchange's Reg SCI compliance by reducing the potential impact of a disruption should the Exchange be required to switch to its Disaster Recovery Facility and encouraging Members to engage in any necessary system testing with low or no cost imposed by the Exchange.<sup>26</sup>

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Exchange has since had existing customers and new customers order additional application sessions that has resulted in the Exchange maintaining nearly the same amount of application sessions for customers as it did prior to the imposition of fees.

<sup>24</sup> 17 CFR 242.1000-1007.

<sup>25</sup> 17 CFR 242.1001(a).

<sup>26</sup> While some Members might directly connect to the Secondary Data Center and incur the proposed \$3,000 per month fee, there are other ways to connect to the Exchange, such as

## 2. Statutory Basis

The Exchange believes that the proposed rule change is consistent with the provisions of Section 6(b)<sup>27</sup> of the Act in general, and furthers the objectives of Section 6(b)(4)<sup>28</sup> of the Act, in particular, in that it is designed to provide for the equitable allocation of reasonable dues, fees and other charges among its Members and other persons using its facilities. Additionally, the Exchange believes that the proposed fees are consistent with the objectives of Section 6(b)(5)<sup>29</sup> of the Act in that they are designed to promote just and equitable principles of trade, to foster cooperation and coordination with persons engaged in regulating, clearing, settling, processing information with respect to, and facilitating transactions in securities, to remove impediments to a free and open market and national market system, and, in general, to protect investors and the public interest, and, particularly, are not designed to permit unfair discrimination between customers, issuers, brokers, or dealers.

The Exchange believes that the proposed fees for connectivity services are reasonable, equitable and not unfairly discriminatory because, as described above, the proposed pricing for connectivity services is directly related to the relative costs to the Exchange to provide those respective services and does not impose a barrier to entry to smaller participants.

The Exchange recognizes that there are various business models and varying sizes of market participants conducting business on the Exchange. The Exchange's incremental aggregate costs for all connectivity services are disproportionately related to Members with higher message traffic and/or Members with more complicated connections established with the

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through a service bureau or extranet, and because the Exchange is not imposing fees for application sessions in the Secondary Data Center, a Member connecting through another method would not incur any fees charged directly by the Exchange. However, the Exchange notes that a third-party service provider providing connectivity to the Exchange likely would charge a fee for providing such connectivity; such fees are not set by or shared in by the Exchange.

<sup>27</sup> 15 U.S.C. 78f.

<sup>28</sup> 15 U.S.C. 78f(b)(4).

<sup>29</sup> 15 U.S.C. 78f(b)(5).

Exchange, as such Members: (1) consume the most bandwidth and resources of the network; (2) transact the vast majority of the volume on the Exchange; and (3) require the high-touch network support services provided by the Exchange and its staff, including network monitoring, reporting and support services, resulting in a much higher cost to the Exchange to provide such connectivity services. Accordingly, the Exchange believes the allocation of the proposed fees that increase based on the number of physical connections or application sessions is reasonable based on the resources consumed by the respective type of market participant (i.e., lowest resource consuming Members will pay the least, and highest resource consuming Members will pay the most), particularly since higher resource consumption translates directly to higher costs to the Exchange.

With regard to reasonableness, the Exchange understands that when appropriate given the context of a proposal the Commission has taken a market-based approach to examine whether the SRO making the proposal was subject to significant competitive forces in setting the terms of the proposal. In looking at this question, the Commission considers whether the SRO has demonstrated in its filing that: (i) there are reasonable substitutes for the product or service; (ii) “platform” competition constrains the ability to set the fee; and/or (iii) revenue and cost analysis shows the fee would not result in the SRO taking supra-competitive profits. If the SRO demonstrates that the fee is subject to significant competitive forces, the Commission will next consider whether there is any substantial countervailing basis to suggest the fee’s terms fail to meet one or more standards under the Exchange Act. If the filing fails to demonstrate that the fee is constrained by competitive forces, the SRO must provide a substantial basis, other than competition, to show that it is consistent with the Exchange Act, which may include production of relevant revenue and cost data pertaining to the product or service.

MEMX believes the proposed fees for connectivity services are fair and reasonable as a form of cost recovery for the Exchange’s aggregate costs of offering connectivity services to Members and non-Members. The proposed fees are expected to generate monthly revenue of

\$1,233,750 providing cost recovery to the Exchange for the aggregate costs of offering connectivity services, based on a methodology that narrowly limits the cost drivers that are allocated cost to those closely and directly related to the particular service. In addition, this revenue will allow the Exchange to continue to offer, to enhance, and to continually refresh its infrastructure as necessary to offer a state-of-the-art trading platform. The Exchange believes that, consistent with the Act, it is appropriate to charge fees that represent a reasonable markup over cost given the other factors discussed above. The Exchange also believes the proposed fee is a reasonable means of encouraging Users to be efficient in the connectivity services they reserve for use, with the benefits to overall system efficiency to the extent Members and non-Members consolidate their usage of connectivity services or discontinue subscriptions to unused physical connectivity.

The Exchange further believes that the proposed fees, as they pertain to purchasers of each type of connectivity alternative, constitute an equitable allocation of reasonable fees charged to the Exchange's Members and non-Members and are allocated fairly amongst the types of market participants using the facilities of the Exchange.

As described above, the Exchange believes the proposed fees are equitably allocated because the Exchange's incremental aggregate costs for all connectivity services are disproportionately related to Members with higher message traffic and/or Members with more complicated connections established with the Exchange, as such Members: (1) consume the most bandwidth and resources of the network; (2) transact the vast majority of the volume on the Exchange; and (3) require the high-touch network support services provided by the Exchange and its staff, including network monitoring, reporting and support services, resulting in a much higher cost to the Exchange to provide such connectivity services.

Commission staff previously noted that the generation of supra-competitive profits is one of several potential factors in considering whether an exchange's proposed fees are consistent

with the Act.<sup>30</sup> As described in the Fee Guidance, the term “supra-competitive profits” refers to profits that exceed the profits that can be obtained in a competitive market. The proposed fee structure would not result in excessive pricing or supra-competitive profits for the Exchange. The proposed fee structure is merely designed to permit the Exchange to cover the costs allocated to providing connectivity services with a modest markup (approximately 8%), which would also help fund future expenditures (increased costs, improvements, etc.). The Exchange believes that this is fair, reasonable, and equitable. Accordingly, the Exchange believes that its proposal is consistent with Section 6(b)(4)<sup>31</sup> of the Act because the proposed fees will permit recovery of the Exchange’s costs and will not result in excessive pricing or supra-competitive profit.

The proposed fees for connectivity services will allow the Exchange to cover certain costs incurred by the Exchange associated with providing and maintaining necessary hardware and other network infrastructure as well as network monitoring and support services; without such hardware, infrastructure, monitoring and support the Exchange would be unable to provide the connectivity services. The Exchange routinely works to improve the performance of the network’s hardware and software. The costs associated with maintaining and enhancing a state-of-the-art exchange network is a significant expense for the Exchange, and thus the Exchange believes that it is reasonable and appropriate to help offset those costs by adopting fees for connectivity services. As detailed above, the Exchange has four primary sources of revenue that it can potentially use to fund its operations: transaction fees, fees for connectivity services, membership and regulatory fees, and market data fees. Accordingly, the Exchange must cover its expenses from these four primary sources of revenue. The Exchange’s Cost Analysis estimates the costs to provide connectivity services at \$1,143,715. Based on current connectivity

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<sup>30</sup> See Fee Guidance, supra note 12.

<sup>31</sup> 15 U.S.C. 78f(b)(4).

services usage, the Exchange would generate monthly revenues of approximately \$1,233,750.<sup>32</sup> This represents a modest profit when compared to the cost of providing connectivity services. Even if the Exchange earns that amount or incrementally more, the Exchange believes the proposed fees for connectivity services are fair and reasonable because they will not result in excessive pricing or supra-competitive profit, when comparing the total expense of MEMX associated with providing connectivity services versus the total projected revenue of the Exchange associated with network connectivity services. As noted above, when incorporating the projected revenue from connectivity services into the Exchange's overall projected revenue, including projections related to recently adopted market data fees, the Exchange anticipates monthly revenue ranging from \$4,296,950 to \$4,546,950 from all sources. As such, applying the Exchange's holistic Cost Analysis to a holistic view of anticipated revenues, the Exchange would earn approximately 8.5% to 15% margin on its operations as a whole. The Exchange believes that this amount is reasonable and is again evidence that the Exchange will not earn a supra-competitive profit.

The Exchange notes that other exchanges offer similar connectivity options to market participants and that the Exchange's fees are a discount as compared to the majority of such fees.<sup>33</sup> With respect to physical connections, each of the Nasdaq Stock Market LLC ("Nasdaq"), NYSE, NYSE Arca, Inc. ("Arca"), BZX and Cboe EDGX Exchange, Inc. ("EDGX") charges between \$7,500-\$22,000 per month for physical connectivity at their primary data centers that is

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<sup>32</sup> See supra note 15.

<sup>33</sup> One significant differentiation between the Exchanges is that while it offers different types of physical connections, including 10Gb, 25Gb, 40Gb, and 100Gb connections, the Exchange does not propose to charge different prices for such connections. In contrast, most of the Exchange's competitors provide scaled pricing that increases depending on the size of the physical connection. The Exchange does not believe that its costs increase incrementally based on the size of a physical connection but instead, that individual connections and the number of such separate and disparate connections are the primary drivers of cost for the Exchange.

comparable to that offered by the Exchange.<sup>34</sup> Nasdaq, NYSE and Arca also charge installation fees, which are not proposed to be charged by the Exchange. With respect to application sessions, each of Nasdaq, NYSE, Arca, BZX and EDGX charges between \$500-\$575 per month for order entry and drop ports.<sup>35</sup> The Exchange further notes that several of these exchanges each charge for other logical ports that the Exchange will continue to provide for free, such as application sessions for testing and disaster recovery purposes.<sup>36</sup> While the Exchange's proposed connectivity fees are lower than the fees charged by Nasdaq, NYSE, Arca, BZX and EDGX, MEMX believes that it offers significant value to Members over these other exchanges in terms of bandwidth available over such connectivity services, which the Exchanges believes is a competitive advantage, and differentiates its connectivity versus connectivity to other exchanges.<sup>37</sup> Additionally, the Exchange's proposed connectivity fees to its disaster recovery

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<sup>34</sup> See the Nasdaq equities fee schedule, available at: <http://www.nasdaqtrader.com/trader.aspx?id=pricelisttrading2>; the NYSE fee schedule, available at: [https://www.nyse.com/publicdocs/nyse/markets/nyse/NYSE\\_Price\\_List.pdf](https://www.nyse.com/publicdocs/nyse/markets/nyse/NYSE_Price_List.pdf); the NYSE Arca equities fee schedule, available at: [https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE\\_Arca\\_Marketplace\\_Fees.pdf](https://www.nyse.com/publicdocs/nyse/markets/nyse-arca/NYSE_Arca_Marketplace_Fees.pdf); the BZX equities fee schedule, available at: [https://markets.cboe.com/us/equities/membership/fee\\_schedule/bzx/](https://markets.cboe.com/us/equities/membership/fee_schedule/bzx/); the EDGX equities fee schedule, available at: [https://markets.cboe.com/us/equities/membership/fee\\_schedule/edgx/](https://markets.cboe.com/us/equities/membership/fee_schedule/edgx/). This range is based on a review of the fees charged for 10-40Gb connections at each of these exchanges and relates solely to the physical port fee or connection charge, excluding co-location fees and other fees assessed by these exchanges. The Exchange notes that it does not offer physical connections with lower bandwidth than 10Gb and that Members and non-Members with lower bandwidth requirements typically access the Exchange through third-party extranets or service bureaus.

<sup>35</sup> See id.

<sup>36</sup> See id.

<sup>37</sup> As noted above, all physical connections offered by MEMX are at least 10Gb capable and physical connections provided with larger bandwidth capabilities will be provided at the same rate as such connections. In contrast to other exchanges, MEMX has not proposed different types of physical connections with higher pricing for those with greater capacity. See supra note 33. The Exchange also reiterates that MEMX application sessions are capable of handling significant amount of message traffic (i.e., over 50,000 orders per second), and have no application flow control or order throttling, in contrast to competitors that have imposed message rate thresholds. See supra note 20 and accompanying text.



facility are within the range of the fees charged by other exchanges for similar connectivity alternatives.<sup>38</sup> The Exchange believes that its proposal to offer certain application sessions free of charge is reasonable, equitably allocated and not unfairly discriminatory because such proposal is intended to encourage Member connections and use of backup and testing facilities of the Exchange, and, with respect to MEMOIR Gap Fill ports, such ports are used exclusively in connection with the receipt and processing of market data from the Exchange.

In conclusion, the Exchange submits that its proposed fee structure satisfies the requirements of Sections 6(b)(4) and 6(b)(5) of the Act<sup>39</sup> for the reasons discussed above in that it provides for the equitable allocation of reasonable dues, fees and other charges among its Members and other persons using its facilities, does not permit unfair discrimination between customers, issuers, brokers, or dealers, and is designed to promote just and equitable principles of trade, to remove impediments to and perfect the mechanism of a free and open market and a national market system and in general to protect investors and the public interest, particularly as the proposal neither targets nor will it have a disparate impact on any particular category of market participant.

B. Self-Regulatory Organization's Statement on Burden on Competition

In accordance with Section 6(b)(8) of the Act,<sup>40</sup> the Exchange does not believe that the proposed rule change would impose any burden on competition that is not necessary or appropriate in furtherance of the purposes of the Act.

***Intra-Market Competition***

The Exchange does not believe that the proposed rule change would place certain market participants at the Exchange at a relative disadvantage compared to other market participants or affect the ability of such market participants to compete. In particular, while the Exchange did

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<sup>38</sup> See supra note 34.

<sup>39</sup> 15 U.S.C. 78f(b)(4) and (5).

<sup>40</sup> 15 U.S.C. 78f(b)(8).

not officially propose fees until late December of 2021 when it filed the Initial Proposal, Exchange personnel had been informally discussing potential fees for connectivity services with a diverse group of market participants that are connected to the Exchange (including large and small firms, firms with large connectivity service footprints and small connectivity service footprints, as well as extranets and service bureaus) for several months leading up to that time. The Exchange received no official complaints from Members, non-Members (extranets or service bureaus), third-parties that purchase the Exchange's connectivity and resell it, and customers of those resellers, that the Exchange's fees or the proposed fees for connectivity services would negatively impact their abilities to compete with other market participants or that they are placed at a disadvantage.

As expected, the Exchange did, however, have several market participants reduce or discontinue use of connectivity services provided directly by the Exchange in response to the fees adopted by the Exchange. The Exchange does not believe that the proposed fees for connectivity services place certain market participants at a relative disadvantage to other market participants because the proposed connectivity pricing is associated with relative usage of the Exchange by each market participant and does not impose a barrier to entry to smaller participants. The Exchange notes that two smaller trading firms cancelled connectivity services and elected not to participate on the Exchange directly due to the imposition of fees but these participants were not actively participating on the Exchange prior to disconnecting and likely connected initially due to the fact that there were no fees to connect. The Exchange believes its proposed pricing is reasonable and, when coupled with the availability of third-party providers that also offer connectivity solutions, that participation on the Exchange is affordable for all market participants, including smaller trading firms. As described above, the connectivity services purchased by market participants typically increase based on their additional message traffic and/or the complexity of their operations. The market participants that utilize more connectivity services typically utilize the most bandwidth, and those are the participants that

consume the most resources from the network. Accordingly, the proposed fees for connectivity services do not favor certain categories of market participants in a manner that would impose a burden on competition; rather, the allocation of the proposed connectivity fees reflects the network resources consumed by the various size of market participants and the costs to the Exchange of providing such connectivity services.

### ***Inter-Market Competition***

The Exchange does not believe the proposed fees place an undue burden on competition on other SROs that is not necessary or appropriate. Additionally, other exchanges have similar connectivity alternatives for their participants, but with higher rates to connect.<sup>41</sup> The Exchange is also unaware of any assertion that the proposed fees for connectivity services would somehow unduly impair its competition with other exchanges.

#### **C. Self-Regulatory Organization's Statement on Comments on the Proposed Rule Change Received from Members, Participants, or Others**

The Exchange neither solicited nor received comments on the proposed rule change.

### **III. Date of Effectiveness of the Proposed Rule Change and Timing for Commission Action**

The foregoing rule change has become effective pursuant to Section 19(b)(3)(A)(ii) of the Act<sup>42</sup> and Rule 19b-4(f)(2)<sup>43</sup> thereunder.

At any time within 60 days of the filing of the proposed rule change, the Commission summarily may temporarily suspend such rule change if it appears to the Commission that such action is necessary or appropriate in the public interest, for the protection of investors, or otherwise in furtherance of the purposes of the Act. If the Commission takes such action, the Commission shall institute proceedings to determine whether the proposed rule change should be approved or disapproved.

### **IV. Solicitation of Comments**

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<sup>41</sup> See supra notes 33-38 and accompanying text.

<sup>42</sup> 15 U.S.C. 78s(b)(3)(A)(ii).

<sup>43</sup> 17 CFR 240.19b-4(f)(2).

Interested persons are invited to submit written data, views, and arguments concerning the foregoing, including whether the proposed rule change is consistent with the Act. Comments may be submitted by any of the following methods:

Electronic comments:

- Use the Commission's Internet comment form (<http://www.sec.gov/rules/sro.shtml>); or
- Send an e-mail to [rule-comments@sec.gov](mailto:rule-comments@sec.gov). Please include File Number SR-MEMX-2022-26 on the subject line.

Paper comments:

- Send paper comments in triplicate to Secretary, Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549-1090.

All submissions should refer to File Number SR-MEMX-2022-26. This file number should be included on the subject line if e-mail is used. To help the Commission process and review your comments more efficiently, please use only one method. The Commission will post all comments on the Commission's Internet website (<http://www.sec.gov/rules/sro.shtml>). Copies of the submission, all subsequent amendments, all written statements with respect to the proposed rule change that are filed with the Commission, and all written communications relating to the proposed rule change between the Commission and any person, other than those that may be withheld from the public in accordance with the provisions of 5 U.S.C. 552, will be available for website viewing and printing in the Commission's Public Reference Room, 100 F Street, NE, Washington, D.C. 20549 on official business days between the hours of 10:00 a.m. and 3:00 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. All comments received will be posted without change; the Commission does not edit personal identifying information from submissions. You should submit only information that you wish to make available publicly. All submissions should refer to File Number SR-MEMX-2022-26 and should be submitted on or before [INSERT DATE 21 DAYS FROM PUBLICATION IN THE FEDERAL REGISTER].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.<sup>44</sup>

**J. Matthew DeLesDernier,**  
*Deputy Secretary.*

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<sup>44</sup> 17 CFR 200.30-3(a)(12).