

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-99275; File No. SR-MEMX-2023-39)

January 4, 2024

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 and Application Session Fees for MEMX Options

Pursuant to Section 19(b)(1) of the Securities Exchange Act of 1934 (the "Act"),¹ and Rule 19b-4 thereunder,² notice is hereby given that on December 21, 2023, 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 a proposal to amend the Fee Schedule to: (i) apply the Exchange's current Connectivity and Application Session fees to MEMX Options Users, (ii) implement a waiver of Connectivity and Application Session fees solely related to participation on MEMX Options until February 1, 2024, and (iii) make an organizational change to its existing fee schedule for the Exchange's pre-existing equities market ("MEMX Equities"), in order to create a separate fee schedule for Connectivity Fees (for both MEMX Equities and MEMX Options). 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.

¹ 15 U.S.C. 78s(b)(1).

² 17 CFR 240.19b-4.

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, 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 filing a proposal to amend the Fee Schedule to: (i) apply the Exchange’s current Connectivity and Application Session fees to MEMX Options Users, (ii) implement a waiver of Connectivity and Application Session fees solely related to participation on MEMX Options until February 1, 2024, and (iii) make an organizational change to its existing fee schedule for the Exchange’s pre-existing equities market (“MEMX Equities”), in order to create a separate fee schedule for Connectivity Fees (for both MEMX Equities and MEMX Options). The Exchange believes that these changes will provide greater transparency to Members about how the Exchange assesses fees, as well as allowing Members to more easily validate their bills on a monthly basis. The Exchange notes that none of these changes amend any existing fee applicable to MEMX Equities. The Exchange is proposing to implement the proposal immediately. The Exchange previously filed the proposal on October 24, 2023 (SR-MEMX-2023-29) (the “Initial Proposal”). The Exchange has withdrawn the Initial Proposal and replaced the proposal with the current filing (SR-MEMX-2023-39).

As set forth below, the Exchange believes that its proposal provides a great deal of transparency regarding the cost of providing connectivity services and anticipated revenue and that the proposal is consistent with the Act and associated guidance. The Exchange is re-filing this proposal promptly following the withdrawal of the Initial Proposal in order to provide additional details not contained in the Initial Proposal and modify the original proposed Options Connectivity and Application Session fee waiver end date from January 1, 2024, to February 1, 2024.

(i) Fees For Connectivity to MEMX Options

As noted above, the Exchange is proposing to apply the current fees it charges to Members and non-Members³ 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) to both Users of MEMX Equities and MEMX Options.⁴ Specifically, the Exchange will continue to charge \$6,000 per month for a physical connection in the data center where the Exchange primarily operates under normal market conditions (“Primary Data Center”), and \$3,000 per month for a physical connection at the geographically diverse data center, which is operated for backup and disaster recovery purposes (“Secondary Data Center”). These physical connections can be used to access both platforms, accordingly, a firm that is a Member of both MEMX Equities and MEMX Options may use a single physical connection to access its application sessions at both

³ 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.

⁴ MEMX Options launched on September 27, 2023.

MEMX Equities and MEMX Options. This differs from application sessions in that a firm that is a Member of both MEMX Equities and MEMX Options would need to purchase separate application sessions for each trading platform in order to access each such trading platform. These application session fees will continue to be \$450 per month for an application session used for order entry (“Order Entry Port”) and \$450 per month for an application session for receipt of drop copies (“Drop Copy Port”), to the extent such ports are in the Primary Data Center. As is true today for MEMX Equities, the Exchange will not charge for Order Entry Ports or Drop Copy Ports in the Secondary Data Center. The Exchange’s proposal to apply the same fees to Equities and Options stems from the same cost analysis it conducted in adopting those fees to its Equities Members,⁵ which the Exchange has reviewed and updated for 2024 as detailed below. Given that the Exchange has only recently launched MEMX Options, however, and the fact that its analysis is based on projections across all potential revenue streams, the Exchange is committing to conduct a one-year review after these fees are applied. 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, or to decrease fees in the event that revenue materially exceeds expectations.

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.

⁵ See Securities Exchange Act Release No. 59846 (September 27, 2022), 87 FR 59845 (October 3, 2022) (SR-MEMX-2022-026).

In proposing to charge fees for connectivity services to MEMX Options, the Exchange has sought to be especially diligent in assessing those fees in a transparent way against its own aggregate costs of providing the related services, 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,⁶ and Rule 19b-4 thereunder,⁷ with respect to the types of information self-regulatory organizations (“SROs”) should provide when filing fee changes, and Section 6(b) of the Act,⁸ which requires, among other things, that exchange fees be reasonable and equitably allocated,⁹ not designed to permit unfair discrimination,¹⁰ and that they not impose a burden on competition not necessary or appropriate in furtherance of the purposes of the Act.¹¹ 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.¹²

As detailed below, MEMX calculated its aggregate annual costs for providing physical connectivity to both MEMX Equities and MEMX Options in 2024 at \$11,448,322 and its

⁶ 15 U.S.C. 78s(b)(1).

⁷ 17 CFR 240.19b-4.

⁸ 15 U.S.C. 78f(b).

⁹ 15 U.S.C. 78f(b)(4).

¹⁰ 15 U.S.C. 78f(b)(5).

¹¹ 15 U.S.C. 78f(b)(8).

¹² 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>.

aggregate annual costs for providing application sessions at \$5,918,788. In order to cover the aggregate costs of providing connectivity to its Options and Equities Users (both Members and non-Members) 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 to Options Users, as it currently does to Equities Users, of \$6,000 per month for each physical connection in the Primary Data Center and of \$3,000 per month for each physical connection in the Secondary Data Center. The Exchange also proposes to modify its Fee Schedule, pursuant to MEMX Rules 15.1(a) and (c), to charge a fee to Options Users, as it currently does to Equities Users, of \$450 per month for each Order Entry Port and Drop Copy Port in the Exchange's Primary Data Center, as further described below.¹³

Cost Analysis

Background on Cost Analysis

In September 2023, MEMX completed a study of its aggregate projected costs to produce market data and connectivity across both its Equities and Options platforms in 2024 (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 and trading permits, regulatory 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

¹³ 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.

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 (70%), with smaller allocations to logical ports (2%), and the remainder to the provision of transaction execution, regulatory services, and market data services (28%). 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 (80%) with a smaller allocation to application sessions (20%). 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 application sessions, 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 in 2024, including both physical connections and application sessions, will result in an aggregate annual cost of \$17,367,110, as further detailed below. The Exchange notes that it utilized the same principles to generate the 2021 Cost Analysis, applicable to Equities only, and at that time, the estimated annual aggregate cost to provide connectivity services was \$13,724,580. The differences between such estimated costs and the overall analysis are primarily based on: (1) the addition of MEMX Options, (ii) increased, and in some cases decreased, costs projected by the Exchange, (iii) and changes made to reallocate certain costs into categories that more closely align the Exchange's audited financial statements, as further described 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 17% of its overall Human Resources cost to offering physical connectivity).

COSTS DRIVER	COSTS	% of ALL
Human Resources	\$ 4,685,902	17%
Connectivity	\$ 413,032	75%
Data Center	\$ 2,654,732	70%
Technology (Hardware, Software Licenses, etc.)	\$ 842,258	21%
Depreciation	\$ 2,030,846	33%
External Market Data	\$ -	0%
Allocated Shared Expenses	\$ 821,552	12%
TOTAL	\$ 11,448,322	20.7%

Below are additional details regarding each of the line-item costs considered by MEMX to be related to offering physical connectivity, as well as any relevant discussion of how the costs projected for 2024 differ, if any, from the Exchange’s previous Cost Analysis conducted in 2021 in adopting Connectivity Fees for its Equities platform, which are the same fees the Exchange is proposing to apply for its Options platform in this filing.¹⁴

Human Resources

In allocating personnel (Human Resources) costs, in order to not double count any allocations, the Exchange first excluded any employee time allocated towards options regulation in order to recoup costs via the Options Regulatory Fee (“ORF”).¹⁵ Of the remaining employee time left over, MEMX then calculated an allocation of employee time for employees whose

¹⁴ See *supra* note 6.

¹⁵ See Securities Exchange Act Release No. 98585 (September 28, 2023), 88 FR 68692 (October 4, 2023) (SR-MEMX-2023-25).

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 (30%).¹⁶ The Exchange notes that it has fewer than 100 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.

¹⁶ To reiterate, these allocations are applied to the percentage of employee time left over after the ORF allocation. As such, if 10% of an employee's time was allocated towards options regulation, the percentage of time allocated to physical connectivity in this example would apply to the 90% of the employee's time left over.

In 2021, 13.8% of the Exchange's Human Resources costs were allocated towards the provision of physical connectivity, which is slightly lower than the 17% allocation in the current Cost Analysis. The Exchanges notes that this increase is due to additional hiring necessary to support network infrastructure, and that in advance of the launch of MEMX Options, this hiring started at the beginning of 2023.

Connectivity

The Connectivity cost includes external fees paid to connect to other exchanges and third parties. 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. Approximately 75% of the Exchange's connectivity costs are allocated towards the provision of physical connectivity, which is the same percentage identified in the 2021 Cost Analysis. Of note, the 2021 Cost Analysis allocated approximately \$162,000 per month of connectivity costs towards physical connectivity, which is notably higher than the \$34,420¹⁷ per month allocated under the current Cost Analysis. The Exchange notes that this is due to a substantial redesign in the Exchange's connectivity plan which achieved the cost savings noted. Additionally, in the 2021 Cost Analysis, certain costs were included in the Connectivity category that have since been moved into the broader Technology category.

Data Center

Data Center costs include 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

¹⁷ This figure is arrived at by dividing the annual allocated Connectivity costs in the table on page 12 (\$413,032) by 12.

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 (70%) 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. This slight decrease over the allocation of Data Center costs to physical connectivity from 2021 (75%) is due to the fact that at the time of the 2021 Cost Analysis there were certain one-time costs in establishing the Exchange's data center presence that it will not have in 2024, as well as the fact that in the 2021 Cost Analysis, additional costs were included in the Data Center category that are not included in the current Analysis.

Technology

The Technology category includes the Exchange's network infrastructure, other hardware, software, and software licenses used to operate and monitor physical assets necessary to offer physical connectivity to the Exchange. Of note, certain of these costs were included in the Connectivity and a separate Hardware and Software Licenses category in the 2021 Cost Analysis; however, in order to align more closely with the Exchange's audited financial statements these costs were combined into the broader Technology category. The Exchange allocated approximately 21% of its Technology costs to physical connectivity in 2024.

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 33% of all depreciation costs to providing physical connectivity. This is a higher percentage than was allocated to providing physical connectivity in 2021 (18.5%), and this increase is due to a high amount of capital expenditures required to build the Exchange's options platform, none of which began to depreciate until the launch of options in September 2023. The Exchange notes, however, that it did not allocate depreciation costs for any internally developed software to build the Exchange's trading platforms to physical connectivity, as such software does not impact the provision of physical connectivity.

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.

Allocated Shared Expenses

Finally, a limited portion of general shared expenses was allocated to physical connectivity 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 23% of the overall cost for directors was allocated to providing physical connectivity. The Exchange notes that the 12% 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.

As a final part of the Exchange's analysis related to physical connectivity, the Exchange determined the total *monthly* cost of providing physical connections, (i.e. the annual cost of \$11,448,322 noted in the table above divided by 12), \$954,027, and it divided that by the total number of physical connections (for both Equities and Options) the Exchange maintained at the time the proposed pricing was determined (200.5),¹⁸ to arrive at a cost of \$4,758.24 per month, per physical connection. Thus, revenue based on this number of connections under the proposed

¹⁸ As of September 1, 2023, the Exchange's customers maintained 182 physical connections in the Primary Data Center and 37 connections in the Secondary Data Center. For purposes of calculating profit margin, however, the Exchange divided the total number of actual Secondary Data Center connections by two (2), given that it charges half price for those connections relative to Primary Data Center connections, but its calculation assumes \$6,000 earned per connection. This is necessary in order to calculate profit margin, given that the Exchange's costs related to physical connectivity are not separated out for Primary or Secondary Data Center connections, and as such, there are no separate Secondary Data Center costs to use as a denominator for Secondary Data Center connection revenue. Thus, the Exchange's total number of physical connections for purposes of the profit margin calculation includes all 182 Primary Data Center connections plus 18.5 (i.e. one-half) of the Exchange's Secondary Data Center connections, totaling 200.5 connections.

pricing herein results in a physical connectivity profit margin of approximately 20%.¹⁹ The Exchange notes that this projected profit margin represents an increase over the projected profit margin noted in the 2021 Cost Analysis related to physical connectivity,²⁰ which is in part due to certain cost savings noted above associated with a redesign in the Exchange's external connectivity plan. Nevertheless, the Exchange believes that the projected profit margin is reasonable and well within the range of where a similarly situated company would expect to be after three years of growth, especially upon launching a new trading platform that provides scale. While the Exchange does not anticipate a significant change to physical connectivity during 2024 (i.e., neither a significant increase nor a significant decrease), it is possible that participants will shift the way that they connect to the Exchange and a reduction occurs or that additional connectivity is established, resulting in an increase.

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 12% of its overall Human Resources cost to offering application sessions).

¹⁹ The Exchange calculated margin by dividing the total profit (\$248,972.88) by the total revenue (\$1,203,000) and multiplying by 100.

²⁰ The 2021 Cost Analysis projected a profit margin for physical connections of 8%.

COSTS DRIVER	COSTS	% of ALL
Human Resources	\$ 3,251,548	12%
Connectivity	\$ 7,097	0%
Data Center	\$ 86,513	2%
Technology (Hardware, Software Licenses, etc.)	\$ 459,116	11%
Depreciation	\$ 553,931	9%
External Market Data	\$ 420,394	18%
Allocated Shared Expenses	\$ 1,140,189	17%
TOTAL	\$5,918,788	10.7%

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. As shown in the table above, for 2024, the Exchange allocated approximately 12% of its Human Resources costs to providing application sessions, which is

higher than the 7.7% it allocated in 2021. This increase is again due to additional hiring needed to support the addition of MEMX Options.

Connectivity

The Connectivity cost includes external fees paid to connect to other exchanges, as described above. The Exchange did not allocate any Connectivity costs to application sessions in the current Cost Analysis, which differs from the 2.6% allocated towards application sessions in the 2021 Cost Analysis. This difference is due to the fact that certain formerly categorized Connectivity costs are now categorized under Technology in the current 2024 Cost Analysis.

Data Center

Data Center costs include 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). As shown in the table, the Exchange allocated 2% of its Data Center costs to application sessions in the current Cost Analysis, which is in line with the 2.6% it allocated in the 2021 Cost Analysis.

Technology

The Technology category includes the Exchange's network infrastructure, other hardware, software, and software licenses used to monitor the health of the order entry services provided by the Exchange. The Exchange allocated 11% of its Technology costs to the provision of application sessions, which is in line with the 10.1% it allocated in the 2021 Cost Analysis.

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 18% of External

Market Data fees 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 (“NBBO”) 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. The increase in allocation of External Market Data costs to the provision of application sessions compared to the 2021 Cost Analysis, in which 7.5% of its External Market Data costs were allocated, is due to a restructuring of the category. Specifically, in 2021, External Market Data only included those costs incurred to receive data from other exchanges, while costs to receive the SIP feeds and other non-exchange data feeds were categorized under Hardware and Software Licenses. These costs are now all categorized under External Market Data.

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 9% of all depreciation costs to providing application sessions. In contrast to physical connectivity, described above, the Exchange did allocate depreciation costs for depreciated internally developed software to build the Exchange’s platforms 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 17% 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.

Lastly, the Exchange determined the total *monthly* cost of providing application sessions, (i.e. the annual cost of \$5,918,788 noted in the table above divided by 12), \$493,232.33, and it divided that by the total number of application sessions (for both Equities and Options) the Exchange maintained at the time the proposed pricing was determined (1,165), to arrive at a cost of approximately \$423.38 per month per physical connection. Thus, revenue based on this

number of connections under the proposed pricing herein results in an application session profit margin of approximately 6%.²¹ This profit margin for application sessions is slightly lower than the projected profit margin noted in the 2021 Cost Analysis,²² and stems from multiple factors, but in part, is due to the fact that the number of application sessions used by participants can and does vary significantly from month to month, and this particular profit margin was calculated based on the number of application sessions for one month in 2023. While the Exchange expects the number of application sessions to increase throughout 2024 (which would result in a higher profit margin), it is also possible that participants shift the way that they connect and a reduction occurs. Nevertheless, the Exchange believes that the margin is again, reasonable and well within the range of where the Exchange would expect it to be at this time.

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 the establishment of an ORF.²³ 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 time of such personnel (75%) given their focus on functions necessary to provide physical connections.

²¹ The Exchange calculated margin by dividing the total profit (\$31,012.30) by the total revenue (\$524,250) and multiplying by 100.

²² The 2021 Cost Analysis projected an application session profit margin of approximately 8%.

²³ See supra note 16.

The time of those same personnel were allocated only 6% to application sessions and the remaining 19% was allocated to transactions and market data. Of note, this allocation applied only to the network infrastructure employee's time that was left over after allocating for options regulation support. The Exchange did not allocate any other Human Resources expense for providing physical connections to any other employee group outside of a smaller allocation (30%) of the employee time associated with certain specified personnel who work closely with and support network infrastructure personnel. In contrast, the Exchange allocated much smaller percentages of employee time (15% 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 17% of its Human Resources costs to providing physical connections and 12% of its Human Resources costs to providing application sessions, for a total allocation of 29% of its Human Resources expense to provide connectivity services. In turn, the Exchange allocated the remaining 71% of its Human Resources expense to Regulatory Services (21%), membership (2%) and transactions and market data (48%). 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 42% of the Exchange's overall depreciation and amortization expense to connectivity services (33% attributed to physical connections and 9% to application sessions). The Exchange allocated the remaining depreciation and amortization expense (approximately 58%) toward regulatory services (approximately 8%), and to providing transaction services and market data (approximately 50%).

Looking at the Exchange's operations holistically, the estimated total monthly costs to the Exchange for offering core services in 2024 is \$4,604,583, compared to the \$3,954,537 noted in the 2021 Cost Analysis. Based on its projections, the Exchange expects to collect approximately \$1,768,800 on a monthly basis for connectivity services. Incorporating this amount into the Exchange's overall projected revenue, including projections related to the ORF, the Exchange anticipates monthly revenue of approximately \$5,988,620 from all sources (i.e., connectivity fees and membership fees, transaction fees, ORF, and revenue from market data, both through the fees adopted in April 2022²⁴ 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 23% margin on its operations as a whole. The Exchange believes that this amount is reasonable.

²⁴ See Securities Exchange Act Release No. 97130 (March 13, 2013), 88 FR 16491 (March 17, 2023) (SR-MEMX-2023-04).

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 options 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 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 operations in 2023 (which is currently underway) and projections for the next year. As such, the Exchange believes that its costs will remain relatively similar in future years (as demonstrated by the comparison of the 2021 Cost Analysis to the 2024 Cost Analysis). 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 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, the Exchange believes 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-Members²⁵) 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 (for both equities and options) as of October 1, 2023, ranges from one (1) to 30, depending on the scope and scale of the Member's trading activity on

²⁵ See supra note 4.

the Exchange as determined by the Member, including the Member's determination of the need for redundant connectivity. Separate physical connections are not required to access the Exchange's Options and Equities platforms, as such, a User could use a single connection to access both platforms. The Exchange notes that 52% 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 24 members, or 32% have either one or two physical ports to connect to the Exchange in the Primary Data Center.²⁶ Thus, only a limited number of Members, (12 members, or 16%), maintain three or more physical ports to connect to the Exchange in the Primary Data Center.²⁷

As described above, the Exchange has previously justified its pricing with respect to MEMX Equities and believes the most fair approach, absent a significant differentiation between application costs to Equities and Options, is to apply the same pricing to all participants of either platform. As such, in order to cover the aggregate costs of providing physical connectivity to Options and Equities 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 for connections to its Options platform, as it currently charges for connections to its Equities platform. 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

²⁶ Of those 24 members, six (6) have designated certain of their physical ports will be used to connect to MEMX Options.

²⁷ Of those 12 members, nine (9) have designated certain of their physical ports will be used to connect to MEMX Options.

each Member deems appropriate. Further, as noted above, existing Equities Members may choose to use their existing physical connection(s) to access the Exchange's Options platform.

The Exchange notes, however, that pursuant to Rule 2.4 (Mandatory Participation 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 designated Members are still able to use third-party providers of connectivity to access the Exchange at its Secondary Data Center, and that for its Equities platform, one of eight such designated Members does use a third-party provider instead of connecting directly to the Secondary Data Center through connectivity provided by the Exchange. 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 for its Options platform, as it currently charges for Equities. 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 the 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 at a discounted rate.²⁸

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 profit margin (approximately 20%), 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.

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

²⁸ See, e.g., the BZX options fee schedule, available at: https://www.cboe.com/us/options/membership/fee_schedule/bzx/.

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 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, subject to the proposed waiver described below.

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-Members²⁹) 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 (1) to more than 150 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

²⁹ See supra note 4.

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. The same application session cannot be used to access both MEMX Equities and MEMX Options, as such, Users will need to purchase separate application sessions for MEMX Options, which differs from physical connections.

As described above, in order to cover the aggregate costs of providing application sessions to Options 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 Data Center for Options application sessions, which is the same fee it currently charges for Equities application sessions. 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, again, which it does not charge for Equities Users. The Exchange has proposed to continue to provide Order Entry Ports and Drop Copy Ports in the Secondary Data Center for Options 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 profit margin (approximately 6%), which would also help fund future expenditures (increased costs, improvements, etc.).

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.³⁰ 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.³¹

³⁰ See, e.g., Cboe US Options BOE Specification, *available at*: https://cdn.cboe.com/resources/membership/US_Options_BOE_Specification.pdf (describing a 5,000 message per second Port Order Rate Threshold on Cboe BOE ports).

³¹ 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

The proposed fee for application sessions is effective on filing and will become operative immediately, subject to the proposed waiver described below.

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 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

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.

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.

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").³² 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.³³ 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. 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

³² 17 CFR 242.1000-1007.

³³ 17 CFR 242.1001(a).

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.³⁴

(ii) Options Connectivity Fee Waiver

To encourage new participants to join the Exchange as Members in order to participate in MEMX Options, the Exchange is proposing to waive all Connectivity Fees used solely for MEMX Options until February 1, 2024. As noted above, physical connections may be used to access both Equities and Options, and as such, the Exchange will internally verify whether new connections are being used solely for Options connections in order to determine whether such connection qualifies for this waiver. Separately, Members specify the Exchange to which their requested application sessions should connect, and as such, any new application sessions for MEMX Options will qualify for this waiver.

(iii) Organizational Fee Schedule Changes

The Exchange is proposing to more clearly separate Connectivity Fees from the Exchange's current fee schedule. Currently, the Exchange has separate transaction fee schedules for Equities and Options, and the current Connectivity Fees appear solely on the Equities fee schedule. The Exchange proposes to remove the Connectivity Fees section from the Equities fee schedule, and add hyperlinks at the bottom of the Equities and Options fee schedules that direct

³⁴ 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 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.

the User to a single Connectivity fee schedule. The Exchange believes this format is appropriate given that the same Connectivity Fees apply to both Equities and Options Users, and separating out the fee schedule for Connectivity Fees will reduce potential confusion (e.g., as to which fees a Member that participates on both MEMX Equities and MEMX Options must pay on a monthly basis to maintain connectivity to the Exchange).

The Exchange also proposes to add three additional bullet points to the new Connectivity Fee Schedule related to MEMX Options. The first will notify Members that a physical connection can be used to access MEMX Equities and/or MEMX Options. The second will clarify that an application session can only be used to access one MEMX platform, i.e., MEMX Equities or MEMX Options. The third will note that Connectivity and application session fees solely related to participation on MEMX Options are waived until February 1, 2024. The Exchange notes that the existing bullet points related to Connectivity and application sessions will be included on the proposed separate Connectivity Fee Schedule, (i.e., detailing the Exchange's billing practices, and making clear that that the Exchange does not 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.

2. Statutory Basis

The Exchange believes that the proposed fees for connectivity services to MEMX Options 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 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 \$1,768,800 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.³⁵ 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 margin (on average, approximately 13%), which would also help fund future expenditures (increased costs, improvements, etc.). While the Fee Guidance did not establish a guideline as to what constitutes supra-competitive pricing through analyzing margin (nor does the Exchange believe it should have), the Exchange does not believe that it would be reasonable to consider margin of 20%, which is the Exchange's estimated margin on physical connections, margin of 6%, which is the Exchange's estimated margin on application sessions, or margin of 13%, which is the Exchange's average estimated margin of overall Connectivity Fees, to constitute supra-competitive pricing. As noted above, the increase in margin for physical connections is primarily driven by certain cost savings that the Exchange has been able to achieve as compared to the 2021 Cost Analysis, and the Exchange does not believe it should be penalized, and instead should be rewarded for identifying and

³⁵ See Fee Guidance, supra note 13.

realizing such savings. Of course, should the Exchange find opportunities to dramatically reduce costs or increase revenues such that it believes the cost it is charging for physical connections or applications sessions is inconsistent with the cost of providing such connectivity or resulting in unreasonable margin, the Exchange will seek to lower its fees in order to pass savings on to its constituents. Thus, the Exchange believes that its proposed pricing for Connectivity Fees is fair, reasonable, and equitable. Further, the Exchange notes that certain of its competitors have connectivity fees that were approved without the presentation of a cost-based analysis, but it is reasonable to assume that certain of those competitors with significantly higher fees also operate with significantly higher profit margins. Accordingly, the Exchange believes that its proposal is consistent with Section 6(b)(4)³⁶ 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 Options 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

³⁶ 15 U.S.C. 78f(b)(4).

its expenses from these four primary sources of revenue. The Exchange's Cost Analysis estimates the costs to provide connectivity services at \$1,447,000. Based on current connectivity services usage, the Exchange would generate monthly revenues of approximately \$1,768,800. This represents a modest profit when compared to the cost of providing connectivity services and that profit represents a modest increase over the profit estimated in the 2021 Cost Analysis (a reasonable goal for a newly formed business, i.e., growing from non-profitable, to break-even to modestly profitable).³⁷ 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 of \$5,988,620 from all sources. As such, applying the Exchange's holistic Cost Analysis to a holistic view of anticipated revenues, the Exchange would earn approximately 23% 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.³⁸ With respect to physical connections, MIAX Options ("MIAX"), MIAX Pearl, LLC

³⁷ Specifically, in the 2021 Cost Analysis, the Exchange estimated the total costs to provide connectivity services at \$1,143,715 and estimated monthly revenues of \$1,233,750.

³⁸ One significant differentiation between the Exchanges is that while it offers different types of physical

(“MIAX Pearl”), MIAX Emerald, LLC (“MIAX Emerald”), each of the Nasdaq Stock Market LLC (“Nasdaq”) options exchanges³⁹, NYSE American Options (“NYSE American”), NYSE Arca Options (“NYSE Arca”), Cboe Exchange, Inc. (“Cboe Options”), Cboe BZX Options (“BZX Options”), and Cboe EDGX Options (“EDGX Options”) charge between \$7,000-\$22,000 per month for physical connectivity at their primary data centers that is comparable to that offered by the Exchange.⁴⁰ Nasdaq, NYSE American and NYSE Arca also charge installation fees, which are not proposed to be charged by the Exchange. With respect to application sessions, BX, PHLX, GEMX, MRX, BOX Options (“BOX”), Cboe Options, BZX Options and EDGX charge between \$500-\$800 per month for order entry and drop ports.⁴¹ 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

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.

³⁹ Including Nasdaq PHLX (“PHLX”), Nasdaq Options Market (“NOM”), Nasdaq BX Options (“BX”), Nasdaq ISE (“ISE”), Nasdaq GEMX (“GEMX”), and Nasdaq MRX (“MRX”).

⁴⁰ See the MIAX fee schedule, available at: https://www.miaxglobal.com/sites/default/files/fee_schedule-files/MIAX_Options_Fee_Schedule_10022023.pdf; the MIAX Pearl fee schedule, available at: https://www.miaxglobal.com/sites/default/files/fee_schedule-files/MIAX_Pearl_Options_Fee_Schedule_09122023.pdf; the MIAX Emerald fee schedule, available at: https://www.miaxglobal.com/sites/default/files/fee_schedule-files/MIAX_Emerald_Fee_Schedule_10122023_3.pdf; the Nasdaq Options markets fee schedule, at <http://www.nasdaqtrader.com/trader.aspx?id=pricelisttrading2>; the NYSE Connectivity fee schedule, at: https://www.nyse.com/publicdocs/Wireless_Connectivity_Fees_and_Charges.pdf; the Cboe fee schedule, at: https://www.cboe.com/us/options/membership/fee_schedule/cone/; the BZX Options fee schedule, available at: https://www.cboe.com/us/options/membership/fee_schedule/bzx/; the EDGX Options fee schedule, available at: https://www.cboe.com/us/options/membership/fee_schedule/edgx/, and the BOX Options fee schedule, available at: <https://boxoptions.com/fee-schedule/>. 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.

⁴¹ See *id.*

recovery purposes.⁴² While the Exchange's proposed Options Connectivity Fees are lower than certain of the fees charged by the Nasdaq options exchanges, MIAX Options, MIAX Pearl, MIAX Emerald, NYSE American, NYSE Arca, BOX, Cboe, 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 Exchange believes is a competitive advantage, and differentiates its connectivity versus connectivity to other exchanges.⁴³ Additionally, the Exchange's proposed Connectivity Fees to its disaster recovery facility are within the range of the fees charged by other exchanges for similar connectivity alternatives.⁴⁴ 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 Act⁴⁵ 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

⁴² See id.

⁴³ 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 39. 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 31 and accompanying text.

⁴⁴ See supra note 41.

⁴⁵ 15 U.S.C. 78f(b)(4) and (5).

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.

The Exchange believes that the waiver of Connectivity Fees for physical connections and application sessions used solely for Options until February 1, 2024 is reasonable, equitable, and not unfairly discriminatory in that it will apply uniformly to all Options Users. The Exchange is proposing the waiver to provide an incentive for options trading firms to apply for membership to MEMX Options, which has recently launched. The options markets are quote-driven markets and are dependent on liquidity providers for liquidity and price discovery. The proposal will be of particular importance in encouraging liquidity providers to become members of the Exchange, which may result in more trading opportunities, enhanced competition, and improved overall market quality on the Exchange. The Exchange notes that it previously proposed waiving Connectivity Fees for physical connections and application sessions used solely for Options until January 1, 2024, but has determined to extend the time for such waiver to February 1, 2024, due to the fact the Exchange has been rolling out the number of options classes traded on MEMX Options gradually since its initial launch and will not complete such rollout until January of 2024. The Exchange believes it is reasonable to postpone the time at which it will commence charging Connectivity Fees for physical connections and application sessions until after such rollout is complete.

The Exchange believes that the proposed reorganization of its fee schedule to establish a separate fee schedule for Connectivity Fees is reasonable and equitable because it is a non-

substantive change and does not involve changing any existing fees or rebates that apply to trading activity on MEMX Equities. Further, the changes are designed to make the fee schedule easier to read and for Members to validate the bills they receive from the Exchange. The Exchange also believes this reorganization is non-discriminatory because it applies uniformly to all Members. The Exchange believes the proposed fee schedule will be clearer and less confusing for Members of the Exchange and will eliminate potential Member confusion, thereby removing impediments to and perfecting the mechanism of a free and open market and a national market, and in general, protecting investors and the public interest.

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

In accordance with Section 6(b)(8) of the Act,⁴⁶ 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.

Intramarket Competition

The Exchange does not believe that the proposed rule change to apply the same Connectivity Fees to Options Users as it does to Equities Users would place certain market participants at the Exchange at a relative disadvantage compared 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. As noted above, the Exchange has previously justified its pricing with respect to MEMX Equities and believes the most fair approach, absent a significant differentiation between application costs to Equities and Options, is to apply the same pricing to all participants of either platform. The Exchange believes its proposed pricing is reasonable and lower than what other options

⁴⁶ 15 U.S.C. 78f(b)(8).

exchanges charge 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. Therefore, the fees may stimulate intramarket competition by attracting additional firms to become Members of MEMX Options. 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.

As it relates to the reorganization of the fee schedule and the Options Connectivity Fee Waiver, as discussed above, the Exchange does not believe that the proposed changes would impose any burden on intramarket competition because such changes would encourage new participants to participate on the Exchange, thereby enhancing liquidity and market quality on the Exchange, as well as enhancing the attractiveness of the Exchange as a trading venue. The Exchange believes this would encourage market participants to direct order flow to the Exchange.

The Exchange does not believe that the proposed changes would impose any burden on intramarket competition because such changes will incentivize new participants to join MEMX Options and the majority of the Exchange's current Equities members joined at a time when MEMX Equities did not charge connectivity fees (also to incentivize such participants to join),

and thus have already received this benefit. The options markets are quote-driven markets and are dependent on liquidity providers for liquidity and price discovery. The proposal will be of particular importance in encouraging liquidity providers to become members of the Exchange, which may result in more trading opportunities, enhanced competition, and improved overall market quality on the Exchange. For the foregoing reasons, the Exchange believes the proposed changes would not impose any burden on intramarket competition that is not necessary or appropriate in furtherance of the purposes of the Act.

Intermarket Competition

The Exchange does not believe the proposed fees for Options Connectivity 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.⁴⁷ The Exchange is also unaware of any assertion that the proposed fees for connectivity services would somehow unduly impair its competition with other exchanges. As a new entrant in an already highly competitive environment for equity options trading, MEMX does not have the market power necessary to set prices for services that are unreasonable or unfairly discriminatory in violation of the Exchange Act. In sum, MEMX's proposed Connectivity Fees for Options Members are comparable to and generally lower than fees charged by other options exchanges for the same or similar services.

Additionally, as described above, the proposed reorganization of the fee schedule and Connectivity Fee Waiver will incentive market participants to join the Exchange during the Fee Waiver period. Accordingly, the Exchange believes the proposal would not burden, but rather promote, intermarket competition by enabling it to better compete with other options exchanges.

⁴⁷ See supra notes 40-45 and accompanying text.

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 Act⁴⁸ and Rule 19b-4(f)(2)⁴⁹ 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

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 (<https://www.sec.gov/rules/sro.shtml>); or
- Send an email to rule-comments@sec.gov. Please include file number SR-MEMX-2023-39 on the subject line.

⁴⁸ 15 U.S.C. 78s(b)(3)(A)(ii).

⁴⁹ 17 CFR 240.19b-4(f)(2).

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-2023-39. This file number should be included on the subject line if email 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 (<https://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, DC 20549, on official business days between the hours of 10 a.m. and 3 p.m. Copies of the filing also will be available for inspection and copying at the principal office of the Exchange. Do not include personal identifiable information in submissions; you should submit only information that you wish to make available publicly. We may redact in part or withhold entirely from publication submitted material that is obscene or subject to copyright

protection. All submissions should refer to file number SR-MEMX-2023-39 and should be submitted on or before [INSERT DATE 21 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

For the Commission, by the Division of Trading and Markets, pursuant to delegated authority.⁵⁰

Sherry R. Haywood,

Assistant Secretary.

⁵⁰ 17 CFR 200.30-3(a)(12).