

August 19, 2022

Via Electronic Mail (rule-comments@sec.gov)

Ms. Vanessa Countryman, Secretary  
Securities and Exchange Commission  
100 F Street, NE  
Washington, DC 20549-1090

RE: File No. SR-MEMX-2022-17<sup>1</sup> and File No. SR-MEMX-2022-19<sup>2</sup>

Dear Ms. Countryman:

The Healthy Markets Association<sup>3</sup> writes to object to the Fourth MEMX Connectivity Filing and Third MEMX Market Data Filing for the same reasons as we did to their predecessors. Attached as **Exhibit 1** are copies of our prior objection letters.

The Fourth MEMX Connectivity Filing and Third MEMX Market Data Filing – like all five of their predecessor filings – do not provide the Commission or staff with sufficient information to conclude that MEMX has met its obligations under the Exchange Act and Commission Rules, and the filings should therefore be suspended and proceedings initiated for their disapproval.

The Initial MEMX Connectivity filing was made in December 2021.<sup>4</sup> It was suspended by the Commission staff and proceedings were initiated to approve or disapprove it in February.<sup>5</sup> Since then, the filing has been withdrawn, modestly modified in non-substantive ways, and refiled three more times. Most recently, following HMA's

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<sup>1</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule Concerning Connectivity Fees*, SEC, Exch. Act Rel. No. 34-95299, July 15, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-95299.pdf> ("Fourth MEMX Connectivity Filing").

<sup>2</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Market Data Fees*, SEC, Exch. Act Rel. No. 34-95420, July 22, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-95420.pdf> ("Third MEMX Market Data Filing").

<sup>3</sup> Healthy Markets Association ("HMA") engages asset owners, asset managers, brokers, exchanges, data providers, policymakers, regulators, and other stakeholders to increase capital markets transparency and reduce conflicts of interest, risks, and costs for investors. To learn about HMA or our members, please see our website at <http://healthymarkets.org>.

<sup>4</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-93937, Jan. 10, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-93937.pdf>.

<sup>5</sup> *Suspension of and Order Instituting Proceedings to Determine Whether to Approve or Disapprove Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-94332, Feb. 28, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94332.pdf>.



objection to the Third MEMX Connectivity Filing,<sup>6</sup> MEMX withdrew it,<sup>7</sup> re-filed a substantively similar Fourth MEMX Connectivity Filing.<sup>8</sup>

***Despite never providing the Commission with sufficient information with which to ensure the connectivity offering and fees comply with the Exchange Act, and despite the Commission staff's suspension of the filing in February, the Exchange has continued to collect tens of thousands of dollars in connectivity fees from each of its connectivity customers.***

Similarly, following HMA's objection to the Second MEMX Market Data Filing, MEMX withdrew it,<sup>9</sup> only to file the substantively similar Third MEMX Market Data Filing the very next day.

The Exchange is highly incentivized to continue playing this ludicrous game of "Whack-a-Mole:" Collectively, MEMX's four connectivity and three market data filings have already extracted millions of dollars from market participants over the past eight months.

Market participants generally do not have the time or resources to continue to follow and file objections to all of these filings. Worse, even those that do have the resources and have been able to engage in the process have been essentially ignored. The Exchange has been permitted by the Commission to continue charging connectivity and market data fees without ever complying with the law by simply withdrawing the offending filings and refileing substantively the same filings to replace them immediately thereafter. Even a Commission staff order suspending one of the filings and initiating proceedings to disapprove it hasn't stopped the Exchange from continuing to collect connectivity fees.

We understand why MEMX and other exchanges will engage in these processes, if permitted. However, market participants should not be compelled to pay unreasonable, inequitable, discriminatory, or anti-competitive fees simply because an exchange is able to refile and reimpose the fees immediately after the same fees are suspended or rejected by the Commission or its staff, or withdrawn by the exchange itself. The

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<sup>6</sup> Letter from Christopher Nagy, HMA, to Secretary, SEC, June 28, 2022, available at <https://healthymarkets.org/wp-content/uploads/2022/06/6-28-22-MEMX-Connectivity-and-Data-FINAL1.pdf>.

<sup>7</sup> Notice of Withdrawal of a Proposed Rule Change to Amend its Fee Schedule to Adopt Connectivity Fees, SEC, Exch. Act Rel. 34-95202, July 6, 2022, available at, <https://www.sec.gov/rules/sro/memx/2022/34-95202.pdf>.

<sup>8</sup> Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule Concerning Connectivity Fees, SEC, Exch. Act Rel. No. 34-95299, July 15, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-95299.pdf>.

<sup>9</sup> Notice of Withdrawal of a Proposed Rule Change to Amend its Fee Schedule to Adopt Market Data Fees, SEC, Exch. Act Rel. No. 34-95400, Aug. 1, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-95400.pdf>.



Commission has the ability to act to immediately suspend these filings and we respectfully request that the Commission use its authority.

Thank you for your consideration. Should you have any questions or would like to discuss these matters further, please contact me at [REDACTED].

Sincerely,

Christopher Nagy  
Research Director

Cc: Honorable Gary Gensler, Chair

June 28, 2022

Via Electronic Mail (rule-comments@sec.gov)

Secretary  
Securities and Exchange Commission  
100 F Street, NE  
Washington, DC 20549-1090

RE: File No. SR-MEMX-2022-13<sup>1</sup> and File No. SR-MEMX-2022-14<sup>2</sup>

Dear Secretary:

The Healthy Markets Association (HMA)<sup>3</sup> writes to object to the two above-referenced filings submitted by MEMX LLC for connectivity and market data, respectively.

The Third MEMX Connectivity Filing and Second MEMX Market Data Filing do not provide the Commission or staff with sufficient information to conclude that MEMX has met its obligations under the Exchange Act and Commission Rules, and the filings should therefore be suspended and proceedings initiated for their disapproval.

Further, as we described in our October petition for Commission rulemaking,<sup>4</sup> we are concerned with the apparent inconsistency and inequity of the Commission's scrutiny of exchange filings. While Chair Gensler has argued to treat like cases alike,<sup>5</sup> that doesn't seem to be happening now.

Many legacy exchanges currently assess fees that, if scrutinized, would likely be found to be discriminatory, undue burdens on competition, inequitably allocated, and unreasonable. And while we welcome the Commission's and staff's newfound interest in enforcing the requirements of the Exchange Act and Commission Rules, when combined with the reality that other exchanges are already imposing similar fees, the impact is to unfairly impede competition and innovation by newer exchanges, while also creating risks that the Commission's actions are arbitrary and capricious. Accordingly, we reiterate our

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<sup>1</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-94924, May 16, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94924.pdf> ("Third MEMX Connectivity Filing").

<sup>2</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Market Data Fees*, SEC, Exch. Act Rel. No. 34-95036, Jun. 3, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-95036.pdf> ("Second MEMX Market Data Filing").

<sup>3</sup> To learn about HMA or our members, please see our website at <http://healthymarkets.org>.

<sup>4</sup> See Letter from Tyler Gellasch, HMA, to Hon. Gary Gensler, SEC, Oct 29, 2021, available at <https://www.sec.gov/rules/petitions/2021/petn4-778.pdf>

<sup>5</sup> See, e.g., Remarks of Hon. Gary Gensler, SEC, before the Healthy Markets Association 2021 Virtual Conference, Dec 9, 2021, available at <https://www.sec.gov/news/speech/gensler-healthy-markets-association-conference-120921>.



request for the Commission to adopt new rules or clear guidance to assist it with the review and assessment of all new exchange filings, but also existing exchange rules.

Market participants shouldn't have to continue to endure existing exchange rules that violate the law simply because the Commission and its staff didn't fulfill their responsibilities three, five, ten, or fifteen years ago. At the same time, those rules (including fees), should not be used to justify new rules by other exchanges that similarly fail to meet the Exchange Act's requirements.

## Legal Standards for Filings

First and foremost, the Exchange Act requires that an exchange's rules:

- provide for an equitable allocation of reasonable dues, fees, and other charges;<sup>6</sup>
- be designed to not "permit unfair discrimination between customers, issuers, brokers, or dealers";<sup>7</sup> and
- "not impose any burden on competition not necessary or appropriate in furtherance of the purposes of" the Act.<sup>8</sup>

MEMX is well aware of these requirements, and has recently asserted them in its objections to market data plan fee filings.<sup>9</sup>

Unfortunately, the specifics of these requirements have not been deeply fleshed out by Commission rule or guidance. While the Commission staff attempted to provide some valuable guidance several years ago,<sup>10</sup> it has since appeared to abandon it.

While a handful of exchange filings appear to seek to follow the Guidance, many exchange filings today appear to essentially ignore it.<sup>11</sup> Further, some filings appear to provide much more detailed and useful information with which to assess them than others. However, whether the filings are permitted to become effective does not appear to be meaningfully tied to the quantity or quality of disclosures, or impacts of the proposed changes.

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<sup>6</sup> 15 U.S.C. § 78f(b)(4).

<sup>7</sup> 15 U.S.C. § 78f(b)(5).

<sup>8</sup> 15 U.S.C. § 78f(b)(8).

<sup>9</sup> See, e.g., Letter from Adrian Griffiths, MEMX, to Vanessa Countryman, SEC, at 3 Nov. 8, 2021, available at <https://memx.com/wp-content/uploads/MEMX-Comment-Letter-Proposed-SIP-Fees.pdf>.

<sup>10</sup> See, *Staff Guidance on SRO Rule Filings Relating to Fees*, SEC, May 21, 2019, available at <https://www.sec.gov/tm/staff-guidance-sro-rule-filings-fees> ("SRO Fee Filing Guidance").

<sup>11</sup> See, e.g., *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend its Fees Schedule Relating to the Sale of Open-Close Volume Data*, SEC, Exch. Act Rel. No. 34-94911, May 13, 2022, available at <https://www.sec.gov/rules/sro/cboebzx/2022/34-94911.pdf>.



## MEMX Connectivity Filings

Pursuant to a filing made on December 30, 2021, on January 3, 2022, MEMX began charging \$6,000 per connection per month for connectivity to its primary data center and \$3,000 per connection per month for its secondary data center.<sup>12</sup> Additionally, MEMX began charging \$450 a month per port to its primary data center and a \$450 per month charge for drop copy ports.<sup>13</sup>

HMA objected to that filing.<sup>14</sup>

On February 28, 2022, the Commission staff suspended the filing and initiated proceedings to approve or disapprove it.<sup>15</sup> We might have thought that MEMX would then stop collecting the connectivity fees until those proceedings were resolved. That's not what happened.

Instead, on March 1, 2022, MEMX filed to reinstate collections of the exact same connectivity fees.<sup>16</sup> On April 29, 2022, after collecting fees for two months pursuant to this second filing, MEMX withdrew the Second MEMX Connectivity Filing.<sup>17</sup>

On May 6, 2022, MEMX then filed to instate for a third time the same connectivity fees that had already been suspended and withdrawn.<sup>18</sup>

As a result, since January 3, 2022, MEMX has been able to continue to collect hundreds of thousands of dollars from market participants for connectivity fees, despite the fact that the fees have subsequently been suspended and withdrawn, and despite clear evidence that such fees are likely inconsistent with the Exchange Act's requirements.

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<sup>12</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-93937, Jan. 10, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-93937.pdf> ("Initial MEMX Connectivity Filing").

<sup>13</sup> Initial MEMX Connectivity Filing.

<sup>14</sup> See Letter from Tyler Gellasch, HMA, to Securities and Exchange Commission, SEC, January 26, 2019, available at <https://www.sec.gov/comments/sr-iex-2021-14/sriex202114-20112947-265551.pdf>.

<sup>15</sup> *Suspension of and Order Instituting Proceedings to Determine Whether to Approve or Disapprove Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-94332, Feb. 28, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94332.pdf> ("MEMX Connectivity Suspension Order").

<sup>16</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-94419, Mar. 15, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94419.pdf> ("Second MEMX Connectivity Filing").

<sup>17</sup> *Notice of Withdrawal of a Proposed Rule Change to Amend the Exchange's Fee Schedule to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-94841, May 3, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94841.pdf>.

<sup>18</sup> Third MEMX Connectivity Filing. That same day, it also withdrew the then-suspended Initial MEMX Connectivity Filing. *Notice of Withdrawal of a Proposed Rule Change to Amend its Fee Schedule to Adopt Connectivity Fees*, SEC, Exch. Act Rel. No. 34-94957, May 20, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94957.pdf>.

## MEMX Connectivity Filings Considerations

Each of the MEMX connectivity filings provides insufficient information for the Commission to conclude that the exchange has met its obligations under the Exchange Act.

### **The Commission Cannot Conclude That The Fees Are Reasonable Because MEMX’s Costs Are Insufficiently Detailed and Inflated**

In an attempt to demonstrate that its connectivity fees are reasonable, MEMX asserted that its monthly costs for offering the connectivity and application services were over \$1.1 million per month, including nearly eight hundred thousand dollars per month to offer just the connectivity products, which it broke down as follows.<sup>19</sup>

<b>COSTS DRIVERS</b>	<b>COSTS</b>
Human Resources	\$262,129
Infrastructure and Connectivity Technology (servers, switches, etc.)	\$162,000
Data Center Costs	\$219,000
Hardware and Software Licenses	\$4,507
Monthly Depreciation	\$99,328
Allocated Shared Expenses	\$48,826
<b>TOTAL</b>	<b>\$795,789</b>

<sup>20</sup>

The details of these line items were not, however, well-described. In suspending the Initial MEMX Connectivity Filing, Commission staff understandably asked for more details and justifications.<sup>21</sup>

We have questions, too. How does the operation of physical connections require \$262,129 in monthly “Human Resources” costs? What is the methodology for making that determination, including the job titles, responsibilities, services performed, hours spent, and salaries of persons whose costs were allocated? Unfortunately, the other line items, such as the nearly \$100,000 per month in “depreciation” are also unexplained in any useful way.

Oddly, in addition to the specific costs, MEMX also attempts to justify the fees with “general shared expenses include general expenses of the Exchange, including office space and office expenses, utilities, recruiting and training, marketing and advertising costs, professional fees for legal, tax and accounting services, and telecommunications costs.”<sup>22</sup>

<sup>19</sup> Initial MEMX Connectivity Filing.

<sup>20</sup> Initial MEMX Connectivity Filing at 6.

<sup>21</sup> MEMX Connectivity Suspension Order.

<sup>22</sup> Initial MEMX Connectivity Filing at 7-8.



MEMX appears to have a fundamental misunderstanding of the Commission's role in reviewing its fee filings. The Commission is obligated to ensure that an exchange complies with the law, not that the exchange is profitable.

Were the Commission to erroneously consider information outside the scope of costs reasonably tied to the connectivity products, the Exchange Act's requirements would be rendered essentially meaningless.

For example, let's assume HMA opens a new coffee shop ("HMA Coffee Shop"), and our per cup cost of production, including coffee beans, water, cups, equipment, and staffing to make a cup of coffee, totals \$1. But HMA faces competition. A coffee shop across the street charges \$1.25 for a cup of coffee. What will happen if the HMA Coffee Shop charges \$20 per cup to its patrons? Would that price be "reasonable"? How?

What is "reasonable" is often a subjective measure, based, in part, upon comparisons to other things. The HMA Coffee Shop charging \$20 per cup when a place across the street charges \$1.25 for similar coffee makes the former appear less reasonable.

Similarly, in 2018, one prominent trading firm executive stood on the stage at the Commission's auditorium and explained:

The exchanges charge my firm a total of \$1.188 million per year each and every year for six cross connects. A cross-connect is simply a cable that plugs into an exchange. This is literally the cable that they use. It is provided by a vendor in Hicksville, Long Island, right near where I grew up. We contacted them and purchased this spool for \$189. It's literally the Nasdaq cable. It is 328 feet of wire. Because we are Virtu, we shopped around and found the exact same spool cheaper on Amazon for \$88.<sup>23</sup>

MEMX didn't exist when Cifu made this colorful declaration. But now, it is attempting to do the exact same thing to its customers. And in a thinly veiled attempt to justify its imposition facially outrageous fees, MEMX is seeking to expand its purported costs well beyond its costs of production in a transparent attempt to artificially inflate its costs.

Going back to the HMA Coffee Shop, do we think customers would be persuaded that our \$20 cost for a cup of coffee was reasonable if we explained that we were simply charging \$20 for coffee to recoup our separately incurred costs of writing comment letters to the Commission? Or would the analysis change if we explained that we had paid \$2 million for a world renowned pastry chef? Or we wanted to pay higher compensation to our Executive Director?

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<sup>23</sup> Remarks of Doug Cifu, Virtu Financial, before the Roundtable on Market Data Products, Market Access Services, and Their Associated Fees, SEC, at 28, Oct. 25, 2018, available at <https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102518-transcript.pdf>.





Of course not.

Whether we try to justify the inflated cost with our other expenses for writing letters or for a pastry chef or a bonus for our Executive Director, the question is about whether the cost for coffee charged by HMA Coffee Shop is reasonable.

We suspect very few people would likely view \$20 as a reasonable price for our coffee, and most customers would likely go across the street for their coffee.

But what if people were required – by rules and business competition – to buy coffee from the HMA Coffee Shop? What if they can't simply go across the street?

That's what happens with the exchanges, and it leads to predictable results. As Cifu explained in 2018,

No market participant that desires to route an order effectively and consistent with its best execution obligations either as a principal or an agent can do so without paying for full depth of book market data from 11 exchanges and connectivity from them all.<sup>24</sup>

Notably, it's exceedingly difficult to compare the relative costs of different exchanges who are providing remarkably similar connectivity services. HMA has attempted to do that, however, based on our reading of the limited information provided in recent filings by some exchanges.<sup>25</sup> MEMX has claimed annual costs of \$13,724,580,<sup>26</sup> while another similarly situated exchange (BOX) claims costs of \$8,900,000,<sup>27</sup> and yet another similarly situated exchange (MIAX) claims costs of \$19,666,270.<sup>28</sup> The extreme variation in these

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<sup>24</sup> Remarks of Doug Cifu, Virtu Financial, before the Roundtable on Market Data Products, Market Access Services, and Their Associated Fees, SEC, at 28 Oct. 25, 2018, available at <https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102518-transcript.pdf>.

<sup>25</sup> See, **Exhibit 1**.

<sup>26</sup> MEMX Third Connectivity Filing, at 9 and 12. There appears to be negligible rounding error in the summation of costs and annualized fees of \$12.

<sup>27</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Fee Schedule on the BOX Options Market LLC Facility to Establish BOX Connectivity Fees for Participants and Non-Participants Who Connect to the BOX Network*, SEC, Exch. Act Rel. No. 34-88161, Feb. 11, 2020, available at <https://www.sec.gov/rules/sro/box/2020/34-88161.pdf>. We note that the filing summarizes annualized costs in one year, 2018, as being approximately \$8.9 million, while the specific itemized numbers sum to \$8.7 million.

<sup>28</sup> *Notice of Filing of a Proposed Rule Change to Amend the MIAX Fee Schedule to Increase Certain Connectivity Fees; Suspension of and Order Instituting Proceedings to Determine Whether to Approve or Disapprove the Proposed Rule Change*, SEC, Exch. Act. Rel. No. 34-94719, Apr. 14, 2022, available at <https://www.sec.gov/rules/sro/miax/2022/34-94719.pdf>.



numbers suggests that each may be including a very different scope of what they view as relevant and appropriate costs.<sup>29</sup>

The Commission is obligated to ensure the reasonableness of MEMX's proposed costs, and the limited information made available to the Commission in the filing is insufficiently detailed and clearly inflated. The cost information provided by MEMX would be insufficient for the Commission or staff to conclude that these connectivity fees are reasonable.

### **The Commission Cannot Conclude that MEMX's Connectivity Fees Are Not Discriminatory, Undue Burdens on Competition, or Equitably Allocated**

There is no competition for direct connectivity products.<sup>30</sup> Nevertheless, MEMX asserts that it faces connectivity competition from its own customers, who may resell their exchange connectivity to MEMX.<sup>31</sup> Of course, these pass-through connectivity services introduce different risks, latencies, and challenges. None of MEMX's three connectivity filings identifies, attempts to quantify, or analyzes these material differences or their impacts on customers of different types.

As has been proven time and again, as prices for connectivity and other products rise, some firms (typically, smaller firms) will inevitably find that they cannot afford an expensive direct connection, and will seek out a lower cost alternative through a reseller or they will simply exit the business. In either option, however, their timely, direct access to information (and ability to compete in the marketplace) is decreased. MEMX ignores this competitive impact entirely.

That said, given the regulatory and business pressure to remain directly connected to the exchange, we would predict that nearly all customers would continue to subscribe, despite the impositions of these new, enormous fees.

At the same time, we would also expect some smaller customers to be essentially forced out of the market, as they opt for slower, less competitive options or exit the market entirely. Not shockingly, the limited data MEMX has provided in this Third MEMX Connectivity Filing supports exactly this understanding of market forces. The imposition of new, massive fees resulted in just 6% of connections been severed,<sup>32</sup> some of which were smaller trading firms.<sup>33</sup> Of the canceling customers,

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<sup>29</sup> That said, the expenses for a single exchange with very low quotation and execution volumes might be different from the costs for an operator of several exchanges with higher volumes. Unfortunately, given the lack of details provided, we simply don't know.

<sup>30</sup> Remarks of Doug Cifu, Virtu Financial, before the Roundtable on Market Data Products, Market Access Services, and Their Associated Fees, SEC, at 28 Oct. 25, 2018, *available at* <https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102518-transcript.pdf>.

<sup>31</sup> Third MEMX Connectivity Filing, at 34.

<sup>32</sup> Third MEMX Connectivity Filing, at 27-28.

<sup>33</sup> Third MEMX Connectivity Filing, at 28.

two (2) customers canceled services entirely, three (3) maintained at least one physical connection provided directly by the Exchange, and the remaining four (4) customers migrated to alternative sources of connectivity through a third-party provider.<sup>34</sup>

No other relevant information is provided.

One concern that we highlighted in our Initial Comment Letter, which is how the costs disparately benefit some market participants (aka, the owners of MEMX), remains largely unaddressed.<sup>35</sup> In its Second MEMX Connectivity Filing, the exchange asserted

that the ownership of an exchange by members is not unprecedented and that the ownership structure of the Exchange and related issues were addressed during the process of the Exchange's registration as a national securities exchange. ... [and that] The Exchange does not believe that the Initial Proposal or this proposal raises any new issues that have not been previously addressed.<sup>36</sup>

We have yet to see where these issues have been addressed. To the contrary, the Limited Liability Agreement for MEMX, which was included in its exchange application, makes it extremely clear that the Board can authorize distributions to the exchange members.<sup>37</sup> It does not, of course, make any statements about how the funds used to make such distributions were collected or whether the collection or distributions are consistent with the Exchange Act's obligations. Put another way, if three members of a group collect all the revenues from imposing a fee on one hundred members of a group, then the net impact on the three members is very different than it is on the other ninety-seven.

Interestingly, the Exchange Act's requirements that fees be reasonable, equitably allocated, non-discriminatory, and not unduly burdensome on competition were enacted precisely to address concerns that exchanges might devise fees to benefit their members to the detriment of other market participants or the markets overall. This is exactly what is happening here.

A small subset of firms seeking to access MEMX as purchasers of the connectivity products are also owners of the exchange. While these member/owners may be assessed the same fees as other connectivity product purchasers, they are also the beneficiaries of the revenues generated by all connectivity purchasers. There is a facially

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<sup>34</sup> Third MEMX Connectivity Filing, at 28.

<sup>35</sup> See Letter from Tyler Gellasch, HMA, to Securities and Exchange Commission, SEC, at 2-3, Jan. 26, 2022, available at <https://www.sec.gov/comments/sr-iex-2021-14/sriex202114-20112947-265551.pdf>.

<sup>36</sup> Second MEMX Connectivity Filing, at 2, n.4.

<sup>37</sup> Sixth Amended and Restated Limited Liability Company Agreement of MEMX Holdings LLC, MEMX, Apr. 5, 2021, available at <https://www.sec.gov/rules/sro/memx/2021/34-93452-ex5.pdf>.



disparate impact on them: the owners, who may be a small subset of customers, receive a net windfall, while the other customers get the bill.

But even more directly, MEMX has some of the most generous rebates in the industry for high-volume traders.<sup>38</sup> At times, the exchange intentionally loses money on trades (collecting less in transaction fees than it pays in rebates).<sup>39</sup> Where does the money come from? To whom does it go?

It appears that MEMX has devised a system – not unlike some of its fellow exchanges<sup>40</sup> – wherein it taxes a broad swath of connectivity and market data customers, and then funnels those revenues back to its highest volume rebate traders and the exchange owners.

Put simply, at MEMX, it appears as though the smallest market participants are generally subsidizing the largest ones – and generating any remaining net revenues for the exchange owners. To ignore this discrimination, inequity, and enormous burden on competition would be to ignore the plain meaning of those terms.

Thus, the limited information provided in the Third MEMX Connectivity Filing is still insufficient for the Commission or staff to conclude that the proposed rule change (which has led to fees being applied since January) is consistent with the Exchange Act.

### **Concerns with MEMX’s Abuse of SEC Process and Selective Exploitation of Data**

For over a century, courts have recognized a “fruit of the poisonous tree” doctrine, which generally holds that the government can’t rely on, or admit into evidence, information illegally obtained.<sup>41</sup> To permit otherwise would be to perversely promote illegal actions.

Unfortunately, that’s precisely what MEMX is doing with these filings.

Specifically, MEMX is now attempting to use some statistics from its collection of fees pursuant to its suspended and subsequently withdrawn Initial MEMX Connectivity Filing, as well as its two subsequent filings. The exchange is arguing that despite the fact that its imposition of these fees was suspended once and withdrawn twice, it continued to collect them anyways, and the Commission should now listen to the exchange as to why the fees aren’t so bad.

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<sup>38</sup> See, e.g., MEMX Fee Schedule, Exhibit 5, available at <https://www.sec.gov/rules/sro/memx/2022/34-95058-ex5.pdf> (reflecting rebates as high as 35 cents per 100 shares, or nearly 17% above the regulatorily imposed take fee cap).

<sup>39</sup> *Id.*

<sup>40</sup> See, *Remarks of Chris Concannon, Cboe, before the Roundtable on Market Data Products, Market Access Services, and Their Associated Fees*, SEC, at 74-75, Oct. 25, 2018, available at <https://www.sec.gov/spotlight/equity-market-structure-roundtables/roundtable-market-data-market-access-102518-transcript.pdf> (“Five out of the top 10 get a check from us after the costs of their connectivity and market data. So we are cutting them a check monthly after their costs.”).

<sup>41</sup> See, *Silverthorne Lumber Co., Inc. v. U.S.*, 251 U.S. 385 (1920).



This Machiavellian outcome is contrary to the law, Commission rules, and public policy. But worse, if the Commission were to accept it, this appears to reward the relatively new exchange practice of filing, charging, and refiling rules despite objections from market participants or even the Commission itself.<sup>42</sup>

## MEMX Market Data Filings

On March 24, 2022, MEMX filed to begin charging market data fees, effective April 1, 2022.<sup>43</sup> The charges range in price depending on the nature of use and the product utilized. The MEMX Market Data Filing covers three market data products, MEMOIR Depth, MEMOIR Top, and MEMOIR Last Sale.

On April 1, 2022, MEMX filed with the Commission to “Clarify the Information Disseminated in the MEMOIR Top Data Feed.”<sup>44</sup> On May 23rd, MEMX withdrew the filing to implement the fees,<sup>45</sup> and filed another “initial” filing to implement the same fees.<sup>46</sup> While the Second MEMX Market Data Filing release by the Commission is 10 pages longer than the Initial MEMX Market Data Filing, the fees charged seem to be unchanged.

The exchange is charging \$1500 per month for “any data recipient that receives a data feed of the MEMOIR Depth feed for purposes of internal distribution.”<sup>47</sup> For firms who wish to redistribute the MEMOIR Depth feed externally, the access fee is \$2,500 per month.<sup>48</sup>

In addition to access fees, the exchange also initiates Non-Display Usage Fees for “a Firm that uses MEMOIR Depth in connection with the operation of one or more Trading Platforms (but not for other purposes)” of \$4,000 per month. However, the Non-Display Usage Fees for “a Firm that uses MEMOIR Depth for non-display purposes other than operating a Trading Platform and for the operation of one or more Trading Platforms is \$5,500 per month.”<sup>49</sup>

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<sup>42</sup> See Letter from Tyler Gellasch, HMA, to Securities and Exchange Commission, SEC, Aug. 5, 2019, available at <https://www.sec.gov/comments/sr-box-2019-22/srbox201922-5915669-189027.pdf>.

<sup>43</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Amend the Exchange’s Fee Schedule to Adopt Market Data Fees*, SEC, Exch. Act Rel. No. 34-94614, Apr. 5, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94614.pdf> (“Initial MEMX Market Data Filing”).

<sup>44</sup> *Notice of Filing and Immediate Effectiveness of a Proposed Rule Change to Clarify the Information Disseminated in the MEMOIR Top Data Feed*, SEC, Exch. Act Rel. No. 34-94653, Apr. 8, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-94653.pdf>.

<sup>45</sup> *Notice of Withdrawal of a Proposed Rule Change to Amend its Fee Schedule to Adopt Market Data Fees*, SEC, Exch. Act Rel. No. 34-95027, June, 2, 2022, available at <https://www.sec.gov/rules/sro/memx/2022/34-95027.pdf>.

<sup>46</sup> Second MEMX Market Data Filing..

<sup>47</sup> Initial MEMX Market Data Filing, at 3; Second MEMX Market Data Filing, at 3.

<sup>48</sup> Initial MEMX Market Data Filing, at 4; Second MEMX Market Data Filing, at 4.

<sup>49</sup> Initial MEMX Market Data Filing, at 5; Second MEMX Market Data Filing, at 6.

The exchange also implements user fees for displayed usage, which are \$30 per month per user for professionals and \$3 per month per user.<sup>50</sup> Lastly, “[t]he Exchange proposes to establish a fee of \$5,000 per month for a Digital Media Enterprise license to the MEMOIR Depth feed.”<sup>51</sup>

For access to the MEMOIR Top data feed, if it is used for internal distribution, then the fee is \$750 per month.<sup>52</sup> For those using it for external distribution, the access fee is \$2,000 per month.<sup>53</sup> Additionally, as with the other feeds, the exchange is imposing user-based distribution fees of \$0.01 per month per user for each of the “pro” and “non-pro” users.<sup>54</sup> As an alternative to professional or non-professional user fees, “[t]he exchange proposes to establish a fee of \$10,000 per month for an Enterprise license to the MEMOIR Top feed.”<sup>55</sup> Finally, “[t]he Exchange proposes to establish a fee of \$2,000 per month for a Digital Media Enterprise license to the MEMOIR Top feed,” to be used only for non-trading purposes.<sup>56</sup>

Lastly, for the MEMOIR Last Sale feed, if it is used for internal distribution, the receipt of access fee is \$500 per month.<sup>57</sup> For those using it for external distribution, the access fee is \$2,000 per month.<sup>58</sup> Additionally, “[t]he Exchange proposes to charge a Professional User Fee (per User) of \$0.01 per month and a Non-Professional User Fee (per User) of \$0.01 per month.”<sup>59</sup> As an alternative to paying professional or non-professional user fees, “[t]he exchange proposes to establish a fee of \$10,000 per month for an Enterprise license to the MEMOIR Last Sale feed.”<sup>60</sup> Finally, “[t]he Exchange proposes to establish a fee of \$2,000 per month for a Digital Media Enterprise license to the MEMOIR Last Sale feed,” to be used only for non-trading purposes.<sup>61</sup>

## Second MEMX Market Data Filing Considerations

The Second MEMX Market Data Filing does not contain sufficient information for the Commission or staff to conclude that the exchange has met its burden demonstrate that

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<sup>50</sup> Initial MEMX Market Data Filing, at 5; Second MEMX Market Data Filing, at 6. We note that MEMX does not describe or provide any information as to what qualifications constitute a professional and what qualifications constitute a non-professional.

<sup>51</sup> Initial MEMX Market Data Filing, at 6-7; Second MEMX Market Data Filing, at 7.

<sup>52</sup> Initial MEMX Market Data Filing, at 7; Second MEMX Market Data Filing, at 7.

<sup>53</sup> Initial MEMX Market Data Filing, at 7; Second MEMX Market Data Filing, at 7.

<sup>54</sup> The exchange states they will not audit users regarding pro/non-pro status but the filing contains no sample agreement to validate this claim. Initial MEMX Market Data Filing, at 8 n.12; Second MEMX Market Data Filing, at 8 n.12.

<sup>55</sup> Initial MEMX Market Data Filing, at 8-9; Second MEMX Market Data Filing, at 8-9.

<sup>56</sup> Initial MEMX Market Data Filing, at 9; Second MEMX Market Data Filing, at 9.

<sup>57</sup> Initial MEMX Market Data Filing, at 9; Second MEMX Market Data Filing, at 9.

<sup>58</sup> Initial MEMX Market Data Filing, at 9; Second MEMX Market Data Filing, at 9.

<sup>59</sup> Initial MEMX Market Data Filing, at 10; Second MEMX Market Data Filing, at 10.

<sup>60</sup> Initial MEMX Market Data Filing, at 11; Second MEMX Market Data Filing, at 11 (revised slightly).

<sup>61</sup> Initial MEMX Market Data Filing, at 11; Second MEMX Market Data Filing, at 11 (revised slightly).



the fees are [reasonable, equitably allocated, non-discriminatory, and not undue burdens on competition.

Contrary to self-interested exchange statements, pricing for MEMX market data does not appear to be subject to robust competition. As a basic matter, the market data being sold – which is the collection of market participants’ submitted orders and messages – is originally collected by the exchange itself. The consolidated view of activity on an exchange is available to the exchange – and only the exchange – first. Thereafter, the exchange controls how it is disseminated to the marketplace (through its own proprietary products or the public market data streams).

The various market data fees appear to readily discriminate in favor of larger firms. For example, enterprise caps facially lower the per-user market data-related costs for larger firms. Ultimately, many market participants need timely access to essential market data, and the fastest way to get the information is directly from MEMX. Timely access to essential market data is both a regulatory and basic competitive requirement for broker-dealers and investors. It’s essential for best execution.<sup>62</sup>

Nevertheless, following the announcement of the new MEMX Market Data Filing fees, fifteen out of seventy-nine subscribers to the MEMX Market Data offerings modified or canceled their subscriptions before the fees went into effect.<sup>63</sup> Eleven subscribers canceled all of their MEMX Market Data subscriptions, with five of those reporting that they would instead begin to rely upon the slower, less informative information provided by the securities information processor.<sup>64</sup>

Again, these firms are essentially withdrawing from being competitive for trading on MEMX, and may be sacrificing their overall competitiveness.

Unlike a franchisee selecting between different franchise opportunities (such as Chick-fil-a versus Domino’s Pizza),<sup>65</sup> market participants cannot generally substitute one option for another. To remain competitive, firms need to have a timely, comprehensive view of the markets, and that generally requires buying each exchange’s proprietary market data.

### **The Commission Cannot Conclude That The Fees Are Reasonable Because MEMX’s Costs Are Insufficiently Detailed and Inflated**

The Second MEMX Market Data Filing boldly asserts that

it is difficult, if not impossible, to purely split the costs of generating and producing market data and the costs associated with operation of the system that processes (and

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<sup>62</sup> See FINRA NTM 15-46, fn 12 & 33.

<sup>63</sup> Second MEMX Market Data Filing, at 15.

<sup>64</sup> Second MEMX Market Data Filing, at 15.

<sup>65</sup> See, Letter from Erika Moore, Nasdaq, to Vanessa Countryman, SEC, at 3, Jan. 27, 2022, *available at* <https://www.sec.gov/comments/sr-iex-2021-14/sriex202114-20113079-265642.pdf>.

displays through market data) orders, cancellations, and transactions and performs related functions (collectively, together with market data, “Transaction Services”). Instead, as described below, the Exchange believes its costs for providing Transaction Services, including market data, are inextricably linked, and thus the cost analysis below and corollary margin discussion includes all Transaction Services.<sup>66</sup>

MEMX’s claim that it can’t separate the costs of distributing market data from the costs of its order and trading systems is utter nonsense.

The costs of people and systems to collect and match orders is facially distinct in form and function to systems that disseminate information out to proprietary data product subscribers and the public.

There is no reasonable justification to lump the costs of people and order intake systems and matching engines (aka the business of trading) with the costs of distributing selected slices of market data. The only plausible justification is to wildly inflate its costs – which it clearly does. Using this cost-inflation methodology, the exchange estimated that its “Transaction Services” costs total nearly \$33.6 million per year!!<sup>67</sup> How much of that has absolutely nothing to do with distribution of the three distinct products subject to the Second MEMX Market Data Filing? Not shockingly the exchange offers no insights.

Interestingly, the exchange seems to recognize its own wild overreach, noting that it “expects to recoup the majority of this cost from transaction fees and revenues from the public data feeds in which the Exchange participates and receives revenues (i.e., the SIPs).”<sup>68</sup> The exchange then attempts to solicit acceptance of its forbearance for not charging “higher fees for the Exchange Data Feeds than proposed, but instead [proposing] what it believes are relatively low-cost options to receive and use Exchange Data Feeds.”<sup>69</sup>

However, rather than address the specific costs for its market data products, the exchange details all of its omnibus “Transaction Services” costs, which includes 72% of the entire firm’s human resources costs, as well as nearly one-fourth of its connectivity costs (which are notably part of MEMX’s separate efforts to justify its separate, enormous new connectivity fees), and “shared expenses.”<sup>70</sup> Aside from including facially inapplicable line items, each of the detailed line items provided appears to be facially inflated.

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<sup>66</sup> Second MEMX Market Data Filing, at 23.

<sup>67</sup> Second MEMX Market Data Filing, at 24.

<sup>68</sup> Second MEMX Market Data Filing, at 24.

<sup>69</sup> Second MEMX Market Data Filing, at 24.

<sup>70</sup> Second MEMX Market Data Filing, at 25.





Similar to how different exchanges appear to be including very different things in their “cost” determinations for their connectivity products, different exchanges have reported far different costs regarding their remarkably similar proprietary market data products. And again, this is likely caused by the exchanges including very different sets of costs.

Attached as **Exhibit 2** is our attempt to compare the market data-related costs across different exchanges. While MEMX impermissibly seeks to include unrelated costs into its analysis of the costs of providing its three proprietary data products, and has thus managed to inflate the combined annual costs to nearly \$33.6 million, another similarly situated exchange has asserted that its annual costs of providing its similar data products is \$2,483,644.<sup>71</sup>

*MEMX is claiming that the pool of relevant costs to be considered is a whopping thirteen times the pool of costs that IEX considered for its analogous products.* The two exchanges are obviously not performing the same good-faith analysis of their costs.

Given these red flags, it is clear that the Commission cannot simply rely on the exchanges’ claims. The Commission must gather the relevant evidence, and make its own determination as to whether the exchange has met its burden.<sup>72</sup> Given the limited facts at hand regarding the Second MEMX Market Data Filing, the Commission and staff would appear to have no basis to conclude that the fees for these products meet the exchange’s burden.

### **Data Audits**

Interestingly, despite its low-cost initial branding, MEMX appears to have adopted a suite of complex market data offering products akin to those offered by other exchanges. Setting aside the explicit costs of these products, the Initial MEMX Market Data Filing and the Second MEMX Market Data Filing each impose significant costs on firms who acquire the data. Those firms must – in perpetuity – monitor who uses the data, for what purpose, when the data is used.

We note that these “pro” versus “non-pro” distinctions facially discriminate between different types of users of data, create significant administrative burdens on third-party data providers who may be directly serving these customers, and have created ambiguities and abuses by exchanges in the past, including through the use of “audits.” For example, we are aware of instances where one exchange has sought to audit its customers’ use, and then used that information to demand higher fees or directly engage in the anti-competitive practice of pitching its products to its customers’ customers.

While the Second MEMX Market Data Filing explains that it “will not audit Firms based on [the pro versus non-pro] distinction, it will request reporting of each distinct category for

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<sup>71</sup> Notice of Filing and Immediate Effectiveness of Proposed Rule Change to Amend its Fee Schedule to Adopt Market Data Fees, SEC, Exch. Act Rel. No. 34-94630; File No. SR-IEX-2022-02, Apr. 7, 2022, available at <https://www.sec.gov/rules/sro/iex/2022/34-94630.pdf>.

<sup>72</sup> See, e.g., *Susquehanna Int’l Group v. SEC*, 866 F.3d 442 (D.C. Cir. 2017).



informational purposes.”<sup>73</sup> This promise by MEMX is cold comfort to firms that have to build the systems to comply with the non-audit reporting, and must acknowledge that MEMX will be incentivized to impose audits in the future.

## **Conclusion**

At its launch, MEMX asserted that the new exchange would increase competition, improve operational transparency, reduce fixed costs, and simplify equity trading in the U.S.<sup>74</sup> Since its launch, MEMX has picked up modest market share, but rather than reducing costs, MEMX is instead imposing new ones on market participants. With its connectivity and market data filings, MEMX has simply joined the ranks of the larger incumbents, extracting essentially compulsory fees from a broad swath of market participants to benefit its ownership. And while its ownership structure is different from other current exchanges, its incentives generally aren't.

More disappointingly, MEMX now appears to be following another path blazed by a handful of its peer exchanges, seeking to avoid Commission scrutiny of its filings by refiling instantly effective rules, which have either been withdrawn or blocked.

While we applaud MEMX for at least putting forth the effort to provide some data, neither the Third MEMX Connectivity Filing nor the Second MEMX Market Data Filing meet the exchange's burden under the Exchange Act and Commission Rules, and so should be suspended. Further, we remain deeply concerned that other exchanges are already imposing fees based on far less information. For example, just last week, three other exchanges submitted filings that appeared to provide nothing to justify the prices they have applied as complying with the Exchange Act's requirements and Commission Rules.

The handling of these filings and the SRO filing process in general demonstrates the need for the Commission to improve its review process and bolster its guidance as we recommended in our petition. In the absence of Commission action, we continue to suggest that significant improvements could be made by simply subjecting differing exchanges to the same level of scrutiny for compliance with the Exchange Act and Commission rules, and following the SRO Fee Filing Guidance.

The Commission should seek to reconcile its rules and guidance so as to mitigate the risks in the future of different exchanges including very different “costs” in their disclosures. As part of that process, we recommend that the Commission instruct exchanges to engage independent third parties to assess their cost structures and assertions.

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<sup>73</sup> Initial MEMX Market Data Filing, at 8 n.12; Second MEMX Market Data Filing, at 8 n.12.

<sup>74</sup> PR Newswire - *MEMX aims to increase competition, improve operational transparency, and lower costs*, Jan. 7, 2019 available at <https://www.prnewswire.com/news-releases/group-of-leading-retail-brokers-financial-services-firms-banks-and-global-market-makers-plan-to-launch-the-only-member-owned-equities-exchange-memx-members-exchange-300773713.html>



While an exchange may be able to establish that its fees for market data products are fair and reasonable through a market-based approach showing that the fees are constrained by competition or a cost-based analysis,<sup>75</sup> in this instance, MEMX has demonstrated neither. Obviously, exchange fees of different types may allow for investment, competition, and innovation. But they must nevertheless meet the requirements of the Exchange Act. These filings have not met their burdens under the law or Commission Rules. As a result, the Third MEMX Connectivity Filing and Second MEMX Market Data Filing should be suspended and ultimately rejected.

Lastly, as we have stated before, the Commission should take action against exchanges that abuse its filing processes to keep collecting fees that have already been suspended or disapproved. Market participants should not be compelled to pay unreasonable, inequitable, discriminatory, or anti-competitive fees simply because an exchange is able to refile and reimpose the fees immediately after the same fees are suspended or rejected by the Commission or its staff, or withdrawn by the exchange itself.

Thank you for your consideration. Should you have any questions or would like to discuss these matters further, please contact me at [REDACTED]

Sincerely,

Christopher Nagy  
Research Director

Cc: Honorable Gary Gensler, Chair  
Haoxiang Zhu, Director of the Division of Trading and Markets

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<sup>75</sup> *NetCoalition v. SEC*, 615 F.3d 525 (D.C. Cir. 2010) (where the courts upheld the Commission's reliance on the existence of competitive market mechanisms to evaluate the reasonableness and fairness of fees for proprietary market data).

# Exhibit 1

<b>MEMX Stated Connectivity Costs*</b>	<b>Yearly Cost</b>	<b>% of Total</b>
Human Resources	\$4,909,896	35.77%
Connectivity (external fees, cabling, switches, etc.)	\$2,010,240	14.65%
Data Center	\$2,717,544	19.80%
External Market Data	\$128,808.00	0.94%
Hardware and Software Licenses	\$507,336	3.70%
Monthly Depreciation	\$1,730,052	12.61%
Allocated Shared Expenses	\$1,720,716	12.54%
<b>Total of Disclosed Costs</b>	<b>\$13,724,592</b>	

\*Third MEMX Connectivity Filing.

<b>BOX Stated Connectivity Costs**</b>	<b>Yearly Cost</b>	<b>% of Total</b>
Space Rental, Power Usage, etc	\$2,800,000	32.18%
Data Center Support & Management of Vendors	\$1,100,000	12.64%
Technological Improvements	\$700,000	8.05%
Technical and Operations Services	\$1,400,000	16.09%
Market Data Connectivity Fees	\$400,000	4.60%
Employee Compensation and Benefits	\$1,000,000	11.49%
Hardware/Software Depreciation	\$1,000,000	11.49%
Office Space Rent	\$100,000	1.15%
Audit Costs, Misc	\$200,000	2.30%
<b>Total of Disclosed Costs</b>	<b>\$8,700,000</b>	

\*\*<https://www.sec.gov/rules/sro/box/2020/34-88161.pdf>.

<b>MIAX Stated Connectivity Costs***</b>	<b>Yearly Cost</b>	<b>% of Total</b>
External Expenses	\$4,382,307	22.28%
Employee Compensation	\$7,063,801	35.92%
Depreciation & Amortization	\$4,184,851	21.28%
Occupancy	\$701,437	3.57%
Allocated Shared Expenses	\$3,333,874	16.95%
<b>Total of Disclosed Costs</b>	<b>\$19,666,270</b>	

\*\*\*<https://www.sec.gov/rules/sro/miax/2022/34-94719.pdf>.

## Exhibit 2

<b>MEMX Stated Market Data Costs*</b>	<b>Annual Costs</b>	<b>% of total</b>
Human Resources	\$17,769,864	52.94%
Connectivity	\$581,760	1.73%
Data Center	\$786,456	2.34%
External Market Data	\$1,599,192	4.76%
Hardware/ Software /Consulting	\$3,980,664	11.86%
Depreciation	\$4,725,960	14.08%
Allocated Shared Expense	\$4,123,284	12.28%
<b>Total of Disclosed Costs</b>	<b>\$33,567,180</b>	

\*Second MEMX Market Data Filing.

<b>IEX Stated Market Data Costs**</b>	<b>Annual Costs</b>	<b>% of total</b>
Servers	\$26,696	0.31%
Network Infrastructure & Admin	\$152,783	1.76%
Monitoring	\$213,109	2.45%
Data Center (Space, Power, Security)	\$79,142	0.91%
DEEP Snapshot (Enhancement)	\$95,974	1.10%
TOPS Snapshot (Enhancement)	\$95,974	1.10%
Capacity Planning (Enhancement)	\$232,856	2.68%
Monitoring Tools (Enhancement)	\$49,609	0.57%
Ongoing Personnel Costs	\$1,537,500	17.67%
<b>Total of Disclosed Costs</b>	<b>\$2,483,643</b>	

\*\*<https://www.sec.gov/rules/sro/iex/2022/34-94630.pdf>.